Gleanings in Bee Culture

"Created to help beekeepers succeed."

September, 1949 Vol. 77, No. 9

An Island Apiary

By H. Harley Selwyn, Experimental Farm, Ottawa, Canada

The Gatineau River Rapids above Wakefield, Ottawa

Since early childhood, I remember, Father always kept bees, and his remembrance was no doubt in no small way impressed upon me by the frequency with which I was stung while at play. The trouble, of course, lay in the fact that dwelling in a city meant keeping the hives in the back garden where they were a constant source of annoyance, not only to us kids, but to the neighbors. It might not have been too bad had it not been for the fact that Father was a most enthusiastic beekeeper and worked with them on every possible occasion. In looking back over the years, I will say this for him: he produced some of the finest comb honey I have ever seen. In those days black bees were in common use, and without a doubt they have no peers in the creation of beautiful sections. We took our stinging and had to like it. The neighbors, I seem to remember, were placated from time to time with a peace offering in the form of a well-filled section handed over the back fence!

As youngsters, we were often en-

listed to help at swarming time when Father was at his office. I too well remember the trepidation with which we would bundle up with extra pants, coats, gloves, and bee veil to tackle a clustering swarm.

When we were still quite young, Father bought a small property in Quebec bordering on the Gatineau River. A wooded island of two acres in extent lay in the river just opposite our house and it was here that Father decided to locate his apiary. In the past, his great difficulty with backyard beekeeping had, as already mentioned, been the trouble with the neighbors. Here, at last, was a location where he could work to his heart's content without inconveniencing a soul.

In due course the bees were transported to their new home and the hives set out in the shade of sumac bushes which grew abundantly on the island. This shrub and large pine trees constituted most of the wooded growth.

At that time the Gatineau was a swift and turbulent river, particularly in spring when the northern waters come rushing down. Father soon found that the presence of this large volume of icy water took a drastic toll of heavily-laden bees as they winged their way home from the distant pastures. As a result, spring build-up was slow, even for the strongest colonies.

The matter of crossing back and forth by boat and the transportation of supplies became quite a problem.

Strangely enough, as I grew older I came to loathe the island. Apart from my fear of bees, it was to me a sort of "Alcatraz" where I was obliged to spend innumerable hours watching for swarms, and often hearing in the distance the rest of the gang indulging themselves in swimming at the "Sand Bar". On one such occasion during the height of the season when the bees were full of the swarming fever and causing me no end of confusion and worry trying to keep track of half a dozen of them at one and the same time, Father appeared at our landing. He had returned home early from the office anticipating swarming trouble. I had taken the boat across and rather than waste time, for he could hear the roar of bees across the intervening water, he jumped into a canoe we owned, city clothes, straw hat, etc., and pushed out from the shore. He evidently lost his balance in the hurry for to my amazement I saw him slowly lean over and then disappear into the waters of the Gatineau, the only visible trace of him for a few moments being his straw hat floating on downstream. Fortunately he was a good swimmer and was heading back for shore by the time I got across with the boat. That was one occasion when I figured a straight face would pay dividends for Father had a heavy hand and I knew by past experience he could lay it on. The incident provided many a laugh for us, but at a much later date.

It was about this time that Dad conceived the idea of raising Belgian hares in conjunction with the bees. Just who started him on the project I never did learn. Suffice to say he made the acquaintance of a man who was in the business and who convinced him there was money in it. He thought they would go well with beekeeping, the idea being to let them loose on the island where they would lead a free and untrammelled existence and rapidly propagate their species. Dogs and foxes would be unable to molest them; expensive cages would not be necessary. It really sounded very promising. Their meat he was assured, could not be told apart from the finest chicken, and the pelts were in demand.

Father bought the hares during the winter and housed them in the basement of the town house, greatly to my mother's disgust. The hares were beautiful creatures as any one who has handled Belgians knows, and cost a lot of money, I have no doubt. Alas, their long history of domestication has robbed them of the art of self-preservation. They never learned to stay away from the fronts of the hives as they browsed about the island and as a consequence were constantly being stung. Whether they actually died from the effects of the poison, I don't remember, but they certainly cut a comical figure as they loped about the bee yard with bunged-up eyes, swollen noses, and ears so enlarged that they drooped to the ground. Insofar as raising offspring was concerned, that angle of the project was a near

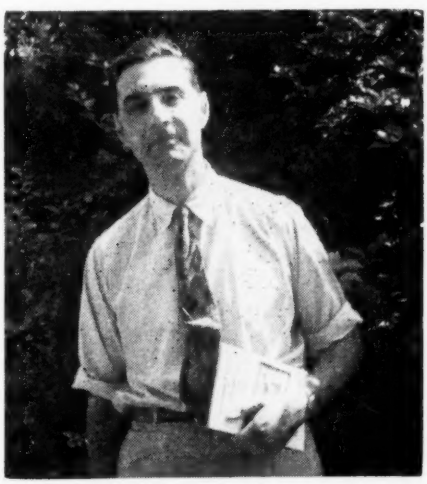
failure from the start. A few pairs did manage to produce some young, but the young, like their parents, were devoid of common sense. When startled they would leap outward into the running water. The reversion to nature was too drastic; their instinct felt no call to the wild.

The worst disaster, however, was yet to come and literally out of the blue. From time to time, we had been discovering an adult hare lying dead with its back eaten away. Father was naturally mystified as to the cause. Dogs or foxes, he figured, were ruled out because of the water barrier, and we had never seen any mink or weasel in the vicinity. Never did we dream of an attack in the form of the great horned owl which inhabited the nearby woods. These fierce creatures had found the unwary hares a perfect set-up and in the ensuing months took a heavy toll. So much so that by autumn the only animals left were a couple of common rabbits which had taken to the life of freedom with great avidity. Thus ended another of my Dad's money-making projects.

The next problem, insofar as the bees were concerned, was to provide them with winter quarters. They had done fairly well during the summer and Father had made considerable increase. It was decided to construct a root cellar in one of the banks which consisted of clear sand which made easy digging. The cellar was lined with rough spruce and balsam poles and covered with earth. An air vent was provided in the roof when completed. It looked like an ideal repository for bees, cool and dry. One factor, however, which Father apparently had not reckoned with was the rapid rise of the water level in the early spring before it was possible to remove the bees. I am afraid this was another case of bad judgment or lack of foresight. When it was possible to open up the cellar the following spring the sight that met our eyes was heart-breaking in the extreme. Hives and walls were dripping wet with moisture, there was a foot of water on the floor covered with a scum of dead bees, while the odor of decay was overpowering.

Just how many colonies were salvaged from this cellar I fail to remember, but it was pitifully few. In view of this setback Father decided that perhaps it would be far better after all to find a site on the mainland where the dangers of spring floods were absent. He had a friend living a few miles distant who was interesetd in bees and who had an abandoned ice house on his property. It was thought this might serve as a suitable winter repository. What remained of the island apiary was moved to this new site and the bees in due course were stored away in the building. Regrettable to relate, this new home was of a type too subject to fluctuations in temperature during the long Canadian winter, and once again my poor Dad lost practically his entire lot of bees.

This, I may say in conclusion, ended his attempts to operate an apiary in the Gatineau, his time from then on being taken up in gardening and raising fowl, both of which he did exceedingly well. The stock of beekeeping equipment was handed over to the writer who for the past 40 years has carried on this most fascinating sideline. (His wife, who is typing this, would like to add that he has made a complete success of the undertaking, having learned, I suppose, what not to do from Dad's previous attempts at the art.)



Dr. Y. deWilde, Amsterdam, Holland, who visited in Medina, Ohio recently. (See Just News, page 585).

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The Question of Multiple Queens

By Geo. W. Phillips, Saratoga, California

As I understand it the philosophy of the dual queen systems might be stated as follows:

Queens produce workers.

Workers produce honey.

More queens, more workers, more honey.

The reasoning is sound and the results so far promising. For two years I have been experimenting with these double brood nests. This article will state what results, state certain features which I have found objectionable, and point to a method of multiple queens which, with me at least, has proved more satisfactory.

Many have had trouble in getting two queens to function in the same hive. I have not. I have usually started brood nest number two as a third story with a back entrance

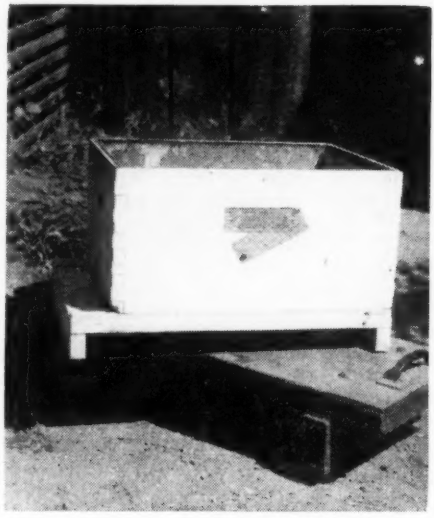

Fig. 1

and completely separated from the first story brood nest. The separation is made with a light bottom board in the center of which is a strip of wirecloth. This is to get the bees above and below acquainted with each other. (See my article in Gleanings for July, 1948.) When the upper queen has established a family in her brood nest—not eggs alone but eggs and larvae as well—the wire in the upper bottom board may be replaced with perforated zinc and the bees above and below given access throughout. The upper queen will not be disturbed and there will be no hostile contact between the two mothers for they will be separated by a super between two honey boards. You will now have two colonies functioning in the same tier of hives.

But that's just the trouble. You have two colonies—not one. I have never been able to achieve a perfect integration. I grant that the aggregate of workers being greater, a larger force is projected into the fields and a larger honey crop results. But just the same, you have two discrete colonies. They never completely unite. They live their separate lives and work out their unit destinies. They are quite neighborly, don't fight, don't rob or steal from each other, but that's as far as it goes. They remind me of neighboring families in an apartment house. They visit each other, converse with each other, and are subject to the same general apartment house conditions. But they don't integrate. Each works out its own destiny. Tolerance and a species of fraternity—that's all.

Of this fact I was this very week so forcefully reminded. It happened in this wise: The local honey flow is coming to an end. No point now in filling combs with a superabundance of eggs, for such workers will arrive too late to be of value, so in five of my seven dual-queen colonies I removed the queens from upper brood nests, hoping that upon the emergence of current brood the combs would be filled with honey. Remember that each of these five colonies still had a laying queen in brood nest number one. Chancing to look into one of these upper brood nests, I caught impending tragedy just in time. Each one had a multitude of queen cells about ready to hatch. Had I missed this, what a riot of swarming would have been mine! Now, do you get my point? These number two brood nests acted exactly like the queenless colonies. The laying queen below exerted absolutely no influence on the situation.

In other words, the dual colonies had never perfectly integrated.

It is common queen-rearing technic to place unsealed brood in the second or third story where grafted cells are being drawn out, and not once can I recall such a colony self prompted starting cells on those frames of unsealed brood. Yes, it might occur in case of swarming fever or other complication, but under normal conditions—no. Why? Because such a colony is one colony—not two in one. The remarkable thing to me is that the two colonies so peacefully fraternize. How do they so intimately intermingle, by the hundred, walk all over each other, rub shoulders with each other day and night, yet

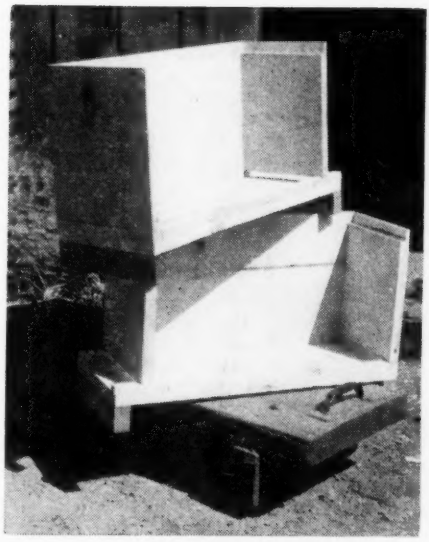

Fig. 2.—Side nuclei or "blisters" holding each four frames and a division board.

remain definite and distinct entities?

Trial and Error Method Still Used

This leads me to make a minor retraction. In August, 1947, I wrote an article for Gleanings entitled "Back Yard Queen Rearing". By and large that article stands as written, but with this minor exception: In spite of the fact that there

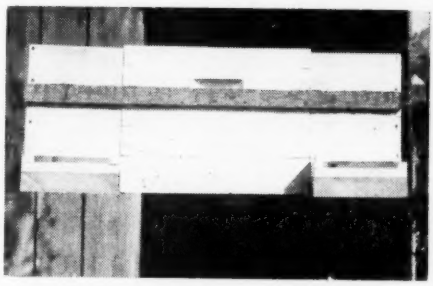

Fig. 3

may be intermingling between the side nuclei and the main colony, and that ultimately they may be drawn together for winter, yet they, like the dual brood nests, remain distinct units and are not influenced one by the conditions prevailing in the other. For instance, the fact that you have a fine laying queen in the central colony will not preclude the possibility of a laying worker in one of the side nuclei. Intermingling bees will not correct this condition. New frames with adhering bees must make replacement from the healthy central colony. Thus in beekeeping we must be very careful not to project unproved theories, but by experience check these theories every step of the way. And that again is the reason why I reaffirm in this article

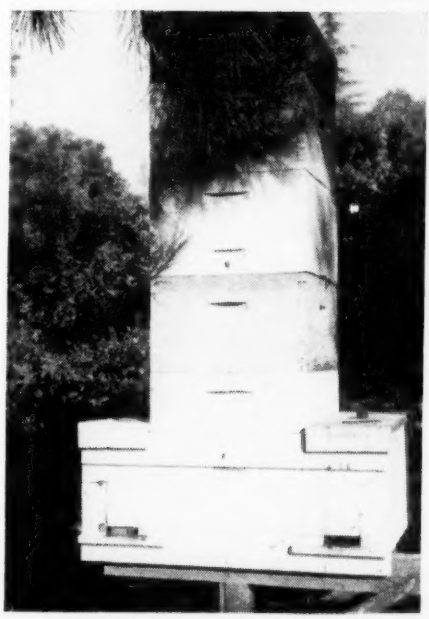

Fig. 4

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what I have said again and again: that apiculture is an evolving science, and what I discover tomorrow may lead me to disavow my affirmations of today—and to do so without hesitation or embarrassment. For has not the trial and error method been the road travelled by the beekeeping fraternity from the beginning? Have you been reading those interesting E. R. Root articles?

Now to my method, not of dual queens but of multiple queens, permit me to say that for two years, side by side, I have been checking my method against the dual brood nest method and in every case with finer honey results and with fewer complications. My method calls for very little special equipment. Regular ten-frame supers, regular hive covers, bottom boards, honey boards, and regular brood chambers with only this exception: that to the standard ten-frame brood nest must be added two special four-frame side nuclei or "blisters", to borrow naval terminology. It is really an unexpected outgrowth of my own queen-rearing system as described in the article before mentioned. It calls for illustration, and since all my equipment is in use I shall be off to the workshop and make up new material for such illustration.

Well, here we are. Notice first of all this standard ten-frame hive body on its bottom board (Fig. 1). The only change is that the side hand holes are cut through and covered with a strip of perforated zinc on top of which is a strip of hardware cloth. These are separated that they might show in the picture but when the side nuclei are made up the strip of hardware cloth is moved to cover completely the perforated zinc. Later on, as will be explained, the hardware cloth may be moved again to give the side nuclei free access to the central brood nest.

And here are the side nuclei I have just made up to illustrate this article (Fig. 2). They measure eight inches in width and are the depth and length of the standard hive. Please note that if you have no adequate workshop the hives for these side nuclei may be made by simply splitting exactly in two a standard ten-frame hive — cover, hive body, and bottom board alike. So you observe no special equipment is at all necessary.

Notice right here the big advantage of this system of mine. These side nuclei serve a double purpose. They were primarily intended as queen-rearing nuclei and as such are splendid. I started with them as two-frame nuclei but I soon had more queens than I had use for. The nuclei became crowded with brood and congested with honey. The idea came to me, "Why not let these little fellows pay for their keep?" So I began moving the filled combs, sometimes with bees and all, into the super of the central hive. The boost thus given to the honey-producing central hive was so instant and so big that I saw at once the advantage of increasing the size of the side nuclei and using them as boosters of the main colony. Results, remarkable! Same idea as the dual queen system, don't you see?—

Queens produce workers.
Workers produce honey.
More queens, more workers, more honey.

Only here you have not two queens but three. And advantage two: Your supporting queens are always easily accessible. No supers to remove, no general tearing up of the colony to get at them. And advantage three: No complication about keeping a second queen from being destroyed by a confused colony. And advantage four: Perfect integration. You have only one colony—the central. The side nuclei are merely supporting factors. And advantage five: When you come to removing your ripe supers you have no second brood nest to fuss with. Use bee escape or brush of chemical as normally. Nor is any special care needed in returning extracted combs. Advantage six: A bigger honey crop—at least so I have found it, using two systems side by side. Here is our new hive completely assembled (Fig. 3).

In this system one cardinal point must not be overlooked. With it there are few colony failures. We all know that in spite of all our care every now and then a poor queen will find her way into a honey-producing colony. Should such an eventuality occur the supporting side nuclei save the situation. Three

queens are not likely to go out on you all at once. The same holds true in case of accidental queenlessness. It shows up at once in queen cells started on the frames of brood transferred. No hopeless queenlessness with its accompanying laying workers. You merely lift from one of the side nuclei a frame with queen, bees, and brood, and transfer same to the queenless brood nest, giving the side nucleus a ripe cell which will soon take the place of the mother removed. Thus your honey crop progresses unretarded. As an example, I have only 20 colonies (ten last year) but every one of the side-compartment hives has for two years been a maximum producer. Yes, there have been accidents but these have been quickly corrected and the unfortunate colony has immediately resumed its place in the procession.

But now let us move into the apiary and get some pictures of the system actually at work (Fig. 4). This with little variation presents the picture of our side-compartment colonies. Here is our technic: After the two side nuclei are well filled with brood the hardware cloth covering the strips of honey board (See Fig. 1) may be swung aside allowing all three compartments to fraternize. Caution: Only if the side nuclei are well established with brood of their own can this intermingling be safely allowed. A virgin in the side nucleus will almost certainly be killed unless the perforated zinc is covered. If there is uncertainty better leave the hardware cloth on indefinitely. Now, as soon as these side nuclei become crowded remove combs to an upper story above the central brood nest. How often or how many combs transferred will depend on the populousness of the nuclei and the strength of the honey flow. Normally, the removal of one or two combs weekly from each side compartment will tell the story. Don't over-do. These combs filled with brood and honey will give a big boost to the central colony. Sometimes, if circumstances permit, the adhering bees may also be transferred. I have never had any fighting. Particularly safe will be this transfer if the three compartments had already been fraternizing through the strips of perforated zinc. Of course the combs removed are immediately replaced with foundation or empty worker comb, and the process thus continued until the end of the honey season.

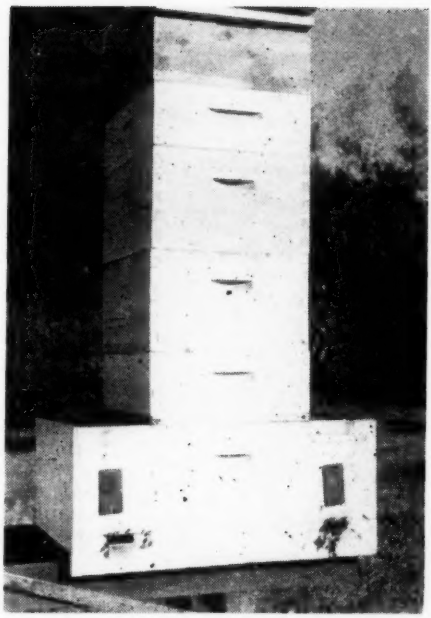


Fig. 5.—Third super, like second and fourth, is a full-depth body.

Well, that's about all. Here is one more picture—this time with covers of the side compartments removed (Fig. 5). From this point on the normal technic of honey production is followed, and you will find your yield per colony increased from 50 to 100 percent.

Bavarian Beekeeper Wants to Correspond With Americans

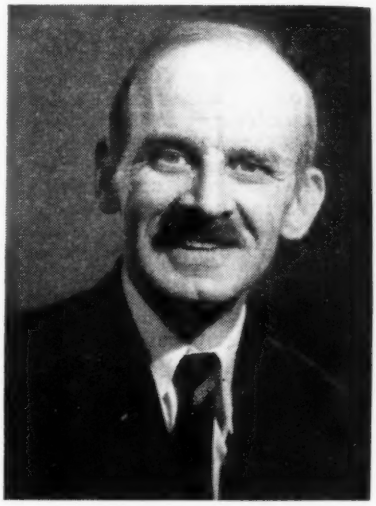
As a young professional beekeeper here in Bavaria, I would very much like to get in contact with young American beekeepers for the purpose of exchanging letters of mutual interest about bees.—Harald Wintzer, %A. R. Wiggins, PX Manager, Hammelburg Lager, APO 62, U. S. Army, Kitzingen, Germany.

Beekeeping Conditions in the Extreme North

By Percy H. Wright, Moose Range, Saskatchewan

Everything we learn about general rules we learn, it seems, by making comparison and noting contrasts. Thus it will be that beekeepers everywhere who are interested in the conditions making for a good honey flow will give some study to the differences between region and region just as they do between season and season. In our district of northeastern Saskatchewan, the Nipawin district, we have about as good a beekeeping record as anywhere on the continent, and for good results there are, of course, good reasons. We claim that our average yield per colony (and mostly package colonies at that) is 200 pounds. This is probably an over-estimate, but not by much. Even the two years which brought such widespread disappointment to North American beekeepers—1945 and 1946—were not too bad, about 150 pounds in 1945 and 125 in 1946. In 1947 we saw a dry year, which meant slight interruption in bee flight, and subsoil moisture carried us along so that yields were right up to the 200 mark again. The year 1948 was a repetition of the same condition, intensified if possible, and yields were often over the 200 mark. One of my own colonies last year was up nine high, and the top super had about 40 pounds in it. That was one out of many, of course.

All of these figures are much higher than the averages for our province. Saskatchewan provincial averages are more than satisfactory some years, but too large a proportion of our area extends into the prairie grassland to be reliable for honey production or for crop production of any kind. Our own district appears to be fairly reliable. At least, in 1945 it was the only part of Canada to produce much of a surplus. In our area, history is very short, and so we do not yet know our true average. Development has been rapid, however, and locally sites for new apiaries are getting hard to find. In northern Saskatchewan as a whole, though, there are still hundreds of sites waiting for an occupant.



Percy H. Wright

One of our advantages is the definiteness of the seasons. At our latitude, if we are to have a summer at all—which seems doubtful some years, 1945 for instance—it can hardly help coming in July. July, as a matter of fact, sees 80 or 90 percent of our surplus honey coming into the hives.

The definiteness of our seasons means that planning the year's operations is relatively easy, and when a certain date rolls around we know exactly what to do. The biggest failures come to those beekeepers who do not realize what is happening to their bees, or when the seasons occur, and who let their colonies waste the few short precious weeks, when weather conditions are warm enough to make a honey flow, in rearing brood that is born only to be gassed off in the fall. Every beekeeper, no matter where he lives, should undoubtedly have a hive scale and at least a weekly weighing, even if he can afford only a stand that will enable him to attach the farm weigh-beam.

Spring Nectar and Pollen Sources Abundant

Another of our advantages is the usual availability of sufficient pollen and nectar in the spring months to enable the colonies to build up satisfactorily. We must

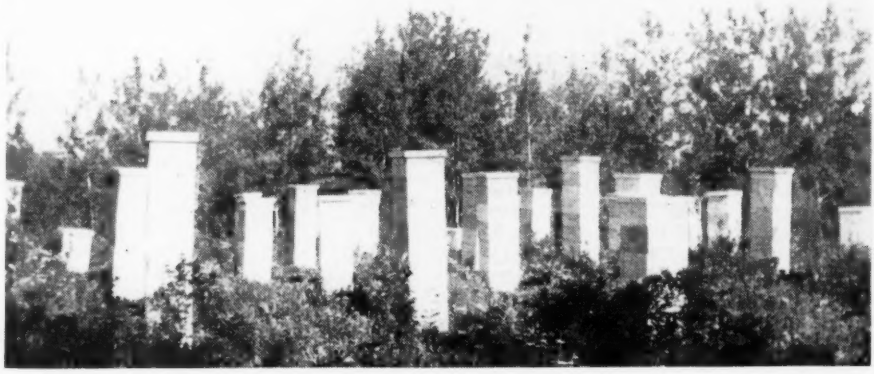
One of the yards of Robert Hamilton of Aylsham, Sask. This one is far in the bush, in the fireweed country east of the town of Carrot River.

thank the native willows, and to a lesser extent, the native wild fruits and the super-copious crop of dandelions for this. The chief spring honey plant is Bebb's willow. In the southern and central parts of the province it has a definite blooming season, about May 15, and is soon over. In our country, its blooming season drags out, beginning about May 15 and ending about June 15. For our conditions it seems the most generous bee plant that there could possibly be, and every bush that is in bloom hums with bees from the crack of dawn, although perhaps the temperature is so low that one wonders at the bees coming out even for water, till the late and lingering daylight at last departs and drives the furious little plunderers home.

Long Days Help in Securing a Good Crop

And here is our third advantage —the long days. In the middle of June the sun swings so high that

(Continued on page 596)



Another of the yards of Robert Hamilton of Aylsham, Saskatchewan. Note that the bottom chambers are hidden by grass and brush.

Aguinaldo, the Wonder Honey Plant of Cuba

By G. Ordetx, Havana, Cuba

By the name **aguinaldo** are designated in Cuba the two most important honey plants of this Island. The name **campanilla** is also employed because their blossoms are bell-shaped ("campanilla" is the Spanish term for little bell.) The aguinaldos are scandent plants belonging to the genus **Ipomoea** of the **Convolvulaceae** family. The best known representative of this genus is the sweet potato (**Ipomoea batatas**,-L.-Lam.), which is widely cultivated in tropical America. Other species known as "morning glories" in the United States are often grown as ornamental vines because of their beautiful flowers. Sweet potato and morning glories are minor sources of honey.

White Aguinaldo. Ipomoea sidaefolia, Choicy (**Rivea corymbosa**, Hall.)—This is the most valuable honey plant in Cuba. Some beekeepers believe that more than one third of the honey that is harvested in the Island comes from this source, an opinion that does not seem to be exaggerated. If we take into account the pitiless destruction to which almost the whole of our woodlands has been subjected, this plant is almost the only productive source of honey in many regions.

The aguinaldo is a vigorous perennial vine which grows in all classes of terrain, preferably in the red and alkaline, covering the pastures, uncultivated lands, climbing over fences and thickets, and even over large size trees. It begins to bloom in the second fortnight of November and remains loaded with blossoms until about the middle of February. But its period of bloom arrives at the maximum during the Christmas season, in which the fields appear covered with a white mantle of "campanilla", producing a delightful sight to the traveler who believes himself to be contemplating a field partially covered with snow. Owing to the season in which it blooms it is mostly known as Christmas aguinaldo or merely the "aguinaldo". The Spanish word **aguinaldo** means gift, New Year's gift or Christmas present. Since this plant blooms around Christmas, it is considered as a Christmas gift to the Cuban beekeepers and from this comes the common name "aguinaldo".

Aguinaldo often climbs over large-sized trees.

One of the characteristics of this plant is its irregular blossoming which has an alternative character. One day we see a field covered with blossoms and the following day there is hardly an open campanilla to be observed; afterwards it will bloom for several consecutive days. It presents its irregularity with more frequency toward the end of the season.

The blossoms open at dawn and hardly does the sun begin to rise when there is heard at a distance from the hives, the joyful hum of the workers that go out and return loaded with delicious nectar. The flow is so considerable in the early morning that the bees are seldom seen working on blossoms other than those of the aguinaldo. After about nine o'clock in the morning the secretion of nectar seems to di-

minish considerably but the bees continue to suck on the campanillas up until noon when the ardent rays of the sun cause the blossoms to close. On cloudy days the campanillas remain open until evening for which reason one would expect a large haul for the bees. This is not the case, however, because on cold or rainy days the flow of nectar is found to be considerably diminished, therefore the warm bright sunny days with little wind are the best even though the flowering period is only of a few hours.

The quantity of nectar which the aguinaldo produces in a short time is so considerable that very few plants in the world can be compared to it as a honey bearer. In the United States, the alfalfa and the clovers are considered the most valuable species to the beekeeper, they alone producing not far from 70 percent of the honey that goes to the wholesale market, but these are cultivated plants and hundreds of acres are sown in a single locality, thus permitting the beekeeper to obtain a considerable harvest. On the other hand, the aguinaldo in Cuba is a wild plant which yearly suffers being torn up and burned in piles, even in places where it can do no damage such as around fences and roadways. Notwithstanding the merciless warfare which has been waged upon it, Christmas never fails to bring the gift of its flower to the beekeeper. Strong colonies store as high as 200 to 300 pounds of surplus from aguinaldo in a favorable season.

White aguinaldo is widely distributed in tropical America. In Puerto Rico, Haiti, and Dominican Republic it is also of much value as a source of honey. W. V. Towers in "Beekeeping in Puerto Rico" says about this plant as follows: "Of the vines the wild sweet potato seems to be a favorite; the bees go down into the blossoms coming out with their backs covered with a white pollen."

In Mexico, aguinaldo occurs along the **tierra caliente** (lowlands) from Sinaloa to Tamaulipas, Yucatan, and Oaxaca. In reply to a special request, A. Castillo Calero, one of the most prominent and successful beekeepers in Merida, Yucatan, writes as follows: "**Xtabentun** is an unreliable yielder, not blooming at all in some seasons, and it is not sufficiently abundant. As a honey plant in Yucatan, it comes behind the **dzidzilche (Gymnopodium antigonoides,** Robins.-Blake) and the **tah (Viguiera helianthoides,** H.B. K.) that are the most important sources of surplus."

In southern Florida aguinaldo is sometimes planted as an ornamental, and it is also found growing wild in many places. At Miami the writer met several beekeepers who reported that in mild winters some honey was secured from this source.

The honey of this plant is of a pearly white color, the same as that of the wax produced with it, and is of such delicious flavor that it can be compared in quality with the best honeys in the world. It is supposed to have medicinal value. Natives of Cuba have used it for their medicinal needs for many years. Even in the War of Independence, Cuban patriots used this honey for the sick and wounded. Many physicians recommended it as a general systemic tonic.

Pink Aguinaldo. Ipomoea triloba, Lin.—This aguinaldo is widely distributed in tropical America. In Cuba it is found on the entire island, although it is not as common as the white except in some localities of the province of the Pinar del Rio where it seems to be most abundant. In Costa Rica it is very common in thickets of Meseta Central, extending to the Pacific Coast.

In Cuba it is known by the name of **aguinaldo marrullero** (deceiver aguinaldo) and **campanilla rosada** (rosada is the Spanish word for pink), and should not be confused with the **Ipomoea sagittata,** Desf., which has the same common names. This plant produces a tiny purple campanilla which appears in the fields after the month of September without the bees paying it any attention. On the other hand, the campanilla of the pink aguinaldo is of greater size (like that of the white) and of a pink-violet shade, appearing in the fields the second fortnight in October. The plant is loaded with flowers until the end of December. In Costa Rica this aguinaldo is called **churristate;** in Panama and El Salvador **campanilla.**

It is possible that this aguinaldo

(Continued on page 595)

Carniolans vs. Italians or Caucasians

By H. R. Swisher, Springfield, Ohio

One reads and reads, issue after issue, and once in a while someone touches on a subject close to your heart and you just have to say something yourself. A. V. Thompson's article on page 10 in January 1948 issue conforms very closely to my own experiences.

Before I say anything regarding Carniolans I would like to go on record about races of bees in general. The race you pick won't make the first iota's worth of difference if you failed to get a GOOD PRODUCING strain. I operate only five yards so I have more time to play and experiment than the average larger operator. The larger operator is in much the same situation as a dairyman with, say, a nice herd of Jerseys. He may have a good reason to believe that in his case Guernseys or Holsteins might be more profitable, but the time and expense in effecting a change-over balances any questionable advantage. A beekeeper with a few colonies once told me he felt sorry for the beekeeper who had so many bees to take care of that he could not find time to enjoy them. The primary reason I get out in the heat and lug and lift bee hives and equipment around is that I like to do it and the only reason I like to do it is that, like many others, I am a BEE NUT. Anyway, ever since I found my first swarm around 1907 I've watched them, played with them, and enjoyed them. By the time the junior year in high school rolled around I was caring for nearly as many colonies as I now have.

It was around this time that I tried my first Caucasian queens. As I remember it they were large fat ladies (which is contrary to my present experience with them) and their progeny were also large, evenly marked, and very gentle. My special Sunday enjoyment consisted of waiting until the front porch was well filled with aunts, uncles, and what have you. About this time I would very quietly secure a nice frame of these very gentle bees and unobtrusively join the family circle. The circle as a rule very quickly broke up, but I don't believe the first Caucasian bee ever left the comb to follow them. I kept a few colonies for a couple of years until World War I came along and I temporarily went out of the bee business. I never received the first section of honey from this stock and I don't see how I could, since they were always busy looking for more propolis.

Back from other parts of the world and gradually getting into the bee business again, I tried Caucasians, Austrians, and Carniolans, only to discard them as I tried them, since they did not prove equal to my Italian stock. I would like to add here that in or about this period I requeened a small yard of about 30 colonies with nice young Italian queens from a breeder from whom I had been buying. I did not know it at the time but this strain had been mated or mixed up with some Cyprian stock in some manner. Don't ever try it knowingly unless you live about 50 miles beyond nowhere and have a suit of good steel armour to put on when you try to work with them. I won't guarantee they won't tear the armour off before you can get away from them. I will say this, though—they will get more honey than anything we have today, if you can figure some way of getting close enough to them to get it off.

The following spring at a time when one should be able to work with most bees I secured some replacements for these ladies and invited a friend beekeeper to help me find the queens I had put in the spring before. He was a better beekeeper than I, and although I warned him concerning the task at hand, he would not heed my warnings. Needless to say, he hunted his veil and gloves before he had the top fully removed from the first hive, and before he found his first queen he had all the clothes on he could find.

In getting back to Carniolans, I believe the mistake I made in trying out various races was in trying groups of from, say, five to ten at a time. If one or two are purchased, it's more than likely you will not secure a queen that will give you a

good idea of what her strain can do. It is very likely when trying a larger group that a colony will show up that will be outstanding and warrant further experimenting and watching. In 1937 I secured an outstanding Carniolan queen in this manner and a year later a Caucasian giving outstanding performance. In the fall of 1937 I made an arrangement with a southern friend to take the Carniolan queen in question. The following spring he sent me 100 daughters mated with his Italian drones. This stock forms the base for two yards I have at this time. Another yard was requeened in 1939 from the daughters of the outstanding Caucasian queen and mated with Carniolan drones.

I don't happen to be a data nut, just a bee nut, so I can't show records for the day and the hour and so on. However, I do keep track of the amount I extract from the different yards from year to year. In GOOD years, and that kind in this locality are years when both clover and basswood hit, there will be very little difference in the colony average between yards. In AVERAGE to POOR and POORER years, such as 1947, the Carniolan stock in ten years has never failed to beat the Caucasian and Italian yards. In 1947, the poorest year I've ever experienced in this locality, the Carniolan base stock averaged a can per colony, the Caucasian base stock close to 15 pounds, and when it came to the Italian yard the supers were just hauled in and placed under fumigation for wax moths. The differences have not always been so pronounced, but there are or have been substantial differences here, and as Mr. Thompson says in his article, "The bees should keep you and not YOU keep the bees."

Under standard management for extracted honey production, I find more variance between strains than I do between races. A different story might develop in the production of comb or chunk honey. It is usually necessary to Demaree the Carniolans the second time in from two to three weeks after the first Demareeing. However, do not mind that, since the necessity for so doing is very likely the reason the comparison in colony average shows in their favor in the fall. Whether it's true, whether it's better housekeeping or less tendency to rob, I do not know—but I do know, at least in my experience, that they are not as susceptible to AFB as other races proved to be. After all the pros and cons are heard and dwelt upon, if you can find a race or strain of bees that will give you a larger net return in YOUR LOCALITY, you have a right to feel you've accomplished something worth while.

Speakers at a recent New Jersey Beekeepers' Association meeting were: left to right, Prof. Robert S. Filmer, Associate Research Specialist in Entomology, N. J. Agricultural Experiment Station, New Brunswick, N. J.; Henry E. Neidengard, Publicity Director N. J. Beekeepers' Association, 227 Pershing Rd., Clifton, N. J.; Huber H. Root, President of The A. I. Root Co, Medina, Ohio; Robert Buchi, First Vice-President N. J. Beekeepers' Association, Ralph Ave., Wortendyke, N. J.; Nelson P. Shelley, President N. J. Beekeepers' Association, Sussex R-1, N. J.; Paul L. Holcombe, Supervisor of Bee Culture, N. J. State Dept. of Agriculture, Trenton, N. J.— Photo by Francis A. Leigh, Trenton, 8, N. J.

Effects of a 5 Percent Dust on Honey Bees

By F. R. Shaw and J. S. Bailey, University of Massachusetts at Amherst

Much has been written concerning the toxicity of DDT applications to honey bees. In general, it has been considered that DDT was less of a hazard to bees than is lead arsenate.

Various reasons have been advanced as to why DDT seemed less toxic. One of the more commonly advanced ideas has been that DDT was repellent to the honey bee.

In order to obtain some information as to the losses under field conditions that might be obtained following applications of DDT, the following experiments were conducted.

A colony of bees was moved into a plantation of cultivated blueberries that were to be dusted with DDT to control cranberry fruit worm. The colony was placed on scales and weighed. Thereafter weights were recorded at 8 a.m. The data obtained are reproduced below:

Date	Weight of colony in lbs.
May 29	106.25
May 30	105.75
May 31*	105.50
June 1	103.
June 2	103.25
June 3	104.00
June 4	104.75
June 5	106.50
June 6	108.
June 7	110.

*5% DDT dust applied at 8 a.m. Most of bloom over. Some bumblebees, honey bees, and solitary bees still working blueberry blossoms.

From this data it is evident that there was a reduction in weight of 2.5 pounds in the 24-hour period following the application. Probably the loss in weight represents some bees as well as a lessened amount of nectar secured. It should be indicated that the loss of weight on May 29 and 30 is correlated with poor weather conditions.

In addition to the data obtained by weighing the colony, observations were made of the presence of dead or disabled bees in front of the hive. For a period of 24 to 48 hours following the application, disabled bees could be seen. However, the greatest number observed at any one time was 12.

From this data it is evident that under the conditions of the experiment no great loss resulted from the application of a 5 percent DDT dust during blueberry bloom. The dust was applied between 8 and 8:30 a.m. The temperature was 52 degrees F.

In order to determine the effects of the application to bees working the bloom at the time the DDT was applied, the following experiments were conducted:

Four lots of bees were taken at random from a colony in the college apiary. These were shaken into sleeve cages. Three of these cages were taken to the plots of cultivated blueberries which were being dusted with 5 percent DDT.

Two of the cages were fastened to blueberry plants in such a way that they would receive the dust as it was applied to the plants by an orchard duster. The third cage was fastened to a blueberry plant following treatment in order to attempt to determine the danger of the residue. The bees were confined for half an hour to the treated plants.

Following these procedures the cages were taken to the apiary, the bees were placed in clean cages, and were supplied with sugar syrup. Counts were then taken of the number of dead bees. At the first count (4 hours) bees not observed to be active were considered dead. The data are presented below. Treatments No. 1 and No. 2 consist of bees subjected to direct application of dust, No. 3 bees confined to treated foliage for 30 minutes, and No. 4 was the check.

Treatment	Time							
	4 hrs.	24 hrs.	48 hrs.	72 hrs.	96 hrs.	120 hrs.	144 hrs.	168 hrs.
	Numbers of dead bees							
No. 1	168	176 (all)						
No. 2	203	205 (all)						
No. 3	70	96	115	115	119	121	121	123
No. 4	0	0	1	1	1	1	2	2

Since the mortality of the bees seemed to have reached a more or less constant rate at the end of 120 hours, the tests were discontinued at 168 hours. At that time there were 52 hive bees in treatment No. 3 and 103 in the check (No. 4).

Expressed in percentages at the end of 24 hours those bees which received direct application of the dust had experienced a mortality of 95 and 99 percent. The bees subjected to the residue experienced a mortality of 61 percent during the same period. In comparison with the check, the bees exposed to treated foliage had lost 79.3 percent of the total as against 1.9 percent for the check.

The suggestion has been made that bees would fly away from the plants being treated so that they would avoid being covered by dust. Observations of the behavior of bees were made. Neither bumblebees nor honey bees were observed to quit the plants before the dust reached them. They usually did fly away after the plant had been dusted.

Another suggestion has been made that the bees were repelled by DDT for a period of 2 or 3 days. No such repellency was noted in our tests. Solitary bees, bumblebees, and honey bees all were observed working treated foliage within 30 minutes of the time of application.

From these experiments the following conclusions might be drawn:

1. The repellent action of DDT to honeybees, solitary bees, and bumblebees is doubtful.

2. Bees actually hit by the DDT dust would appear likely to die within 24 hours.

3. There is danger to the bees as a result of residual action of DDT. The duration has not been determined.

4. The danger resulting from residual action appears to be less than that resulting from direct contact.

5. Under the conditions of the experiment the application of DDT dust did not seem to produce serious losses to the scale colony.

"Buzz Bombs" Are Old Stuff

By Alfred I. Tooke, Los Angeles, California

The "buzz bombs" of World War II days were not exactly new. King Richard the Lion Heart used them in "days of old when knights were bold" and went off on little jaunts to try to take the Holy Land away from the heathen Saracen.

They had a rather tough time taking the city of Acre. After trying without success for seven years, Richard himself popped over to size things up. It looked like a tough proposition sure enough, but he had an idea. He promptly rounded up all the bee hives from far and near and ended up with about a thousand.

In those pre-cannon days, huge rocks were hurled at the enemy by catapults. Richard substituted bee hives for rocks. When his warriors were ready to assault the gates of the city once more (and the warriors inside were massed to meet them, of course), up went the thousand bee hives and over the city wall into the closely massed Saracen defenders. It was a complete surprise, and a most effective one. The bees of those days were not the gentle, docile creatures of today. They would quit honey making for scrapping any day, and out they swarmed to see who was treating them so roughly. All around them they saw Saracens and they went to work on them. Meanwhile King Richard's battering rams were going to work on the city gates.

The Saracens were willing to fight all the knights Richard could throw up against them, but throwing bee hives was another matter. They quickly had enough and retired to the nearest protection available. When Richard's battering rams crashed in the gates he was unopposed and presently he and his knights were marching triumphantly through the conquered city.

Who said "buzz bombs" were modern?

Second Glances

By C. M. Isaacson

Fundamentals of selling are much the same, whether the product is honey or something else. First—pack or prepare a good and attractive product. Second—let the customer know of it. If by mail, advertise. If in a store, display. If a roadside stand, properly placed signs and other "eye appeals". And last, but not least in importance, treat your customer so that he will return for more. You may call your methods "horse and buggy" ways, Mr. Tontz—I'd say they were well thought-out developments of basic points. More power to you (page 481).

More beekeepers are needed (page 485). A short range observation would cause many nowadays to say "no" to Mr. Peabody's statement, but a look ahead and common sense both testify emphatically to its truth. Of course we do, and the schoolroom certainly is an excellent place to tell enough about the honey bee to awaken interest. As the article says in conclusion, there will be dividends, both in wider use of honey and in unmeasured benefit of helping young people around you.

Much more remarkable than a ton of honey from one hive (I do not say "colony") are the two records of over 800 pounds each mentioned in W. A. Kotze's article (page 487). The ton was produced by many colonies on one stand. They did very well, but the records of the single-queen true colonies was really amazing. And that closing statement is an important one—it is very true that one really strong colony is worth many weaker ones. We all need to keep that well in mind.

Honey is a delicious, quick energy food, with measurable amounts of minerals and a worthwhile source of certain vitamins. This seems to about sum up Mr. duBois' concise and to-the-point article (page 491). The fact that it is a predigested food makes for almost immediate absorption. Most beekeepers have experienced the lift of a small amount of honey eaten when tired. It's good and good for you!

In defense of the "Kingbird", let me say that I have had many pairs of them near my home yard for years and have never been able to note that any measurable damage has occurred. Perhaps certain individuals may acquire an especial taste at times but let's not blame the whole family (page 492).

Honey cookery improves, says Mrs. Nielsen, and so it can be made ahead of the rush periods. Yes, and it is good. What more need be said? (page 493).

Training bees to leave one plant for another sounds, to put it frankly, a bit incredible. I know how dangerous it is to say that about careful research work but to one who has seen bees seemingly go wild over a certain flower and work it to the exclusion of all else, it would seem very difficult to get them to abandon it. And as far as the two "dances" are concerned, if the "wag-tail" type is used for the farther nectar sources, why does one see it much more frequently when a heavy flow is on and bees are presumably not having to search as far for a load of nectar? Just an observation from an ordinary beekeeper (page 494).

Stings can be beekeeping's unpleasant feature, but the alleviating factor here is that the harder the bees are working for you the less they sting. So get your "hired girls" out on the clover, Mr. Heacock, and preserve that dignity (what is left). Forget about training those drones—I believe that they do not even have a honey sac to carry nectar—or at least not much of a one (page 496).

The deep frame has been tried in various styles for many years, but using it in a standard double brood chamber hive is a bit different (page 498). One disadvantage would be that brood chambers and supers would not be interchangeable; and of course, with any deep-frame hive a fall honey flow is necessary to insure enough honey stored in such frames for winter. There would be plenty of egg-laying room in uninterrupted sheets, and I believe that upper entrance would tend to keep it freer from honey at the start of the flow. It is an idea worth trying, especially on a few hives.

Honey Treats for the Cookie Jar

By Mrs. Benj. Nielsen

Yummy honey cookies for that after-school snack. — Photo courtesy Kellogg Co.

Soon classrooms and vacation-rested teachers will claim the youth of the land, and Mom will be back on the job packing the lunch box, or preparing to stand by for the after-school snack. Youthful raids, at any or all hours, make it difficult to keep the cookie jar stocked.

Honey cookies have a characteristic golden brown tone, and a delightful flavor which improves with age, IF you can keep any long enough to acquire any age. At the Nielsen house there is only one place Mom has successfully hidden any for that aging process, and "to be sure to have any on hand when acutely needed". Little Nielsen (not so little either, for he is taller than his Mom!) vows he will find that last cache too, and Mom expects him to most any day.

Two of the recipes selected this month are good keepers if the doughs are securely wrapped in waxed paper and stored in the refrigerator. Each time a portion of the dough is used, the remainder should be tightly rewrapped before returning to the refrigerator. These doughs will keep a week to ten days. I like to make up two or three different kinds in a grand "mixing spree", store the doughs separately, then bake a dozen or two of each kind several times a week.

So if you pack a lunch box or merely stand by with that after-school snack, do try one or all of these.

Honey Spice Cookies

One-half cup shortening, ¾ cup honey, 1 egg, 1 cup bran, 1⅓ cups sifted flour, ½ teaspoon salt, 1 teaspoon baking powder, ¼ teaspoon soda, ⅛ teaspoon cloves, 1 teaspoon cinnamon, and 1 cup seedless raisins.

Blend shortening and honey thoroughly. Add egg and beat until creamy. Add bran. Sift flour with salt, baking powder, soda, cloves, and cinnamon; combine with raisins; add to first mixture and mix well. Drop dough by teaspoonfuls onto lightly greased baking sheet about 2½ inches apart. Bake in moderate oven, 350 degrees F., about 20 minutes. Yield: 2 dozen cookies, 3 inches in diameter.

Frosted Honey Creams

One-half cup shortening, ½ cup sugar, 1 beaten egg, ½ cup honey, ½ cup strong hot coffee infusion, 1½ cups flour, ½ teaspoon salt, 1½ teaspoons baking powder, ¼ teaspoon soda, 1 teaspoon cinnamon, and ½ teaspoon cloves.

Thoroughly cream shortening and sugar; add egg and honey; mix well. Add coffee and beat. Add sifted dry ingredients; beat until smooth. Pour into greased 9 by 13 inch pan. Bake in moderate oven, 350 degrees F., 25 minutes. While warm, frost with your favorite confectioners' frosting. Cool and cut in squares. Yield: 1½ dozen.

Honey Drop Cookies

One-third cup shortening, ½ cup honey, 2 eggs, well-beaten, ½ cup sour cream, 1¾ cups sifted flour, 1 teaspoon baking powder, ¼ teaspoon salt, ½ teaspoon soda, ½ cup chopped nutmeats, ½ cup chopped dates, ½ teaspoon nutmeg or 1 teaspoon vanilla, and 1 cup oven-popped rice cereal.

Blend shortening and honey. Add eggs and cream. Sift flour with baking powder, salt, and soda; add to first mixture. Stir in nutmeats, dates, flavoring, and cereal. Drop by teaspoonfuls onto lightly greased baking sheet. Bake in moderate oven, 375 degrees F., about 20 minutes. Yield: 2 dozen cookies, 4 inches in diameter.

Asked and Answered

How to Kill Undesirable Bees

Question: What is the name of the drug that one can use to kill undesirable colonies of bees?—Swanson P. Mills, Va.

Answer: Cyanogas, which may be purchased in powder form in one half and one pound containers, can be used to destroy bees in the hive. Place about a tablespoonful of this chemical on a cardboard at the hive entrance and then push the cardboard into the hive. In less than a half minute every bee in the hive will be dead. The gas being lighter than air travels up and destroys the bees instantly. The person who handles Cyanogas should stand on the windward side of the hive in order to avoid inhaling the fumes. This is a powerful chemical and should be handled with extreme care. This chemical does not make the honey in the combs unfit for human consumption provided the combs are well aired after the gas has passed from the hive.

Do Queens Lay During Winter?

Question: I am a beginner in beekeeping and have been completely mystified on whether the queen lays in winter or not. I have read a book on bees and it says that she doesn't. I have only one colony and would like to try installing package bees in the fall about the time of the goldenrod flow, giving the colony a second story. Would it work?—Joseph Beckford, Mass.

Answer: It would be inadvisable to install a package of bees late in the fall because in your locality queens practically suspend egg laying late in October. There is what we call a period of quiescence in the hive during November, December, and the first part of January, during which time queens lay very few if any eggs. In most regions of the North the queens will start laying a few eggs during late January, increasing their egg laying during February and March. Not until early pollen is available in the spring during the last week in March or early April do queens start to lay prolifically. In your state April is the best time to install packages of bees. Packages put into the hives at that time can be built up, with intelligent management, to colonies of good strength to take advantage of the major honey flow in your locality which should begin some time in June and continue during July. You likely have a fall flow in your locality consisting of goldenrod and aster, which begins in late August or September.

How to Quiet Bees Before Handling

Question: Sprinkling sugar water on package bees before handling calms them. What would happen if you were to dip your hands in sugar water when you inspect bees? I have more or less become accustomed to being stung on my hands, but it is like my dad whipping me—I got used to it, but darned if I got to where I liked it.—C. W. Beck, Miss.

Answer: Sugar water, commonly called sugar syrup, is made of equal parts granulated sugar and water. When given to bees in a package before being put into a hive it causes the bees to be gentle and easy to handle because bees that are filled with syrup do not fly off the combs readily and are more docile when being handled. Dipping your hands into the syrup before handling the frames or combs in the hive would not necessarily make the bees more gentle. Using the right amount of smoke at the proper time does help.

When is Honey Ripened?

Question: During the peak of the honey flow the bees seal the honey in a few days, and as the flow slows up it takes longer, and at the close it seems they will not seal at all, although the cells are full of honey. Is it likely the bees only produce an abundance of wax when nature provides for the sealing?—E. G. Rountree, Texas.

Answer: Combs of honey do not need to be entirely sealed over for the honey to be properly ripened. During some seasons when the honey flow shuts off suddenly, portions of combs will not be capped over. There appears to be two reasons for this: first, bees do not secrete wax naturally when there is no nectar coming in, and secondly, bees are likely to leave some honey uncapped at the end of the flow so that the bees may have access to it for food without having to uncap the combs. During very dry weather honey is likely to be quite well ripened even though some combs are not entirely sealed over. During a very wet season honey may not be thoroughly cured, even though the combs are sealed over. The cappings of combs do not make the honey inside the cappings air-

tight. Much depends on weather conditions when it comes to ripe and unripe honey. However, it is well to permit the bees to cap as much of the honey as they will before it is taken off.

Reducing Moisture in Honey Before Extracting

Question: Is it possible to take honey off the hive before it is capped and take out the excess moisture in the honey house by using heat and electric fans to force warm air up through the supers?—John Flock, Ills.

Answer: We have heard of beekeepers who pile their supers of honey, after being removed from the hives, in criss-cross fashion in a heated honey house, then warm air is blown through the piles of supers with one or more electric fans. According to reports this method has obtained the desired results. However, we have never done it here. We can see where this method could be applicable, especially during a wet rainy season when it is difficult for bees to drive the excess moisture from the nectar in the hives.

Strengthening a Weak Colony

Question: I have one weak hive with about half the number of bees required. Please advise me if it is possible to add more bees, and how.—Michael F. Di Cicco, Pa.

Answer: If there are a number of hives in your apiary, you could exchange the locations of your weak colony with a strong one—that is, you could put the weak hive of bees on the location now occupied by the strong colony, placing the strong hive of bees on the location now occupied by the weak colony. If you do this changing during mid-day when there is a honey flow on, the population of both hives will be equalized without danger of reducing the population of the strong colony too much. You can readily understand that the field bees from the populous colony will return to the hives of the weak colony placed on their stand. This exchanging is sometimes done in the spring to equalize the strength of colonies and as a swarm control measure.

Keeping Extractor Clean

Question: Can you tell me what to do to keep the reel of my extractor from rusting?. I have quite a time to scour and clean it every time I use it. Would aluminum paint damage the honey?—Charles B. Smith, Maine.

Answer: Some commercial beekeepers do not wash the interior of their extractors in the fall, but leave them with honey adhering until ready to use the following season, at which time they are washed thoroughly. The honey has a tendency to protect the metal. However, if the reel or the inside of the extractor can starts to rust, the rusted part should be sanded and covered with aluminum paint which does not damage honey.

Bees Build Some Drone Cells

Question: Why do the bees build drone comb on foundation? And what can I do to prevent this?—Arthur S. Tycer, La.

Answer: Once in a while bees will alter the midrib of worker comb foundation and substitute drone cells for worker cells. Just why the bees do this is not easily explained. Someone has said that a normal colony of bees will have at least 10 percent drone cells. Some years ago our queen breeder Mel Pritchard said that in his opinion it would pay beekeepers to maintain a drone comb in each colony of bees to give the queen a chance to lay unfertile eggs. There may be something to this. Normally, a young queen should lay fewer unfertile or drone eggs than an old queen which is a good reason for having queens that are young.

Swarm for Observation Hive Uniting With Weak Colony

Question: Is it practicable to try to put a swarm of bees into an observation hive or is it better to buy a two- or three-pound package of bees and start them in the observation hive? Is it advisable to put a swarm into a weak hive? Should the queen of the swarm be destroyed first? —Joseph L. Taylor, Rhode Island.

Answer: If you have reference to a one-frame observation hive, a 2-pound package of bees with a queen would be an ample amount. In fact, a slightly smaller amount would serve the purpose. When putting the bees into a hive containing a weak colony, it is common practice to permit the queen in the weak colony to remain, thus giving the two queens a chance to fight it out for the supremacy of the hive. As a rule the younger queen will survive and the older queen will be properly disposed of. It is well to feed both lots of bees an ample amount of sugar syrup before uniting.

Sales Tales

By Tom Paisley

Know Your Market

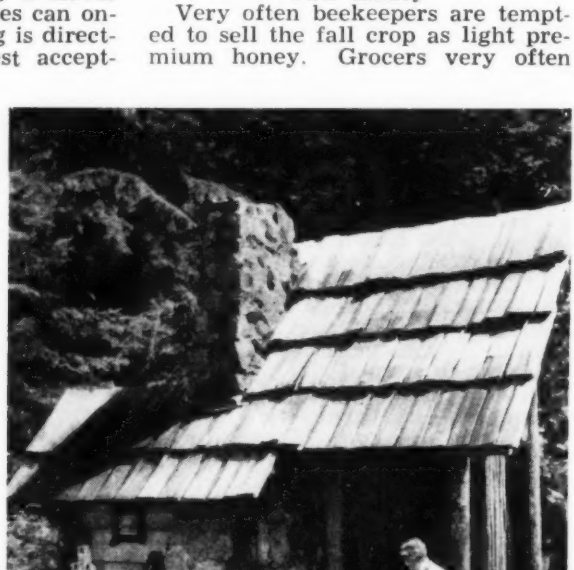
A primary essential in selling honey whether it be comb, extracted, light or dark, is knowing your market, your particular honey, and its appeal to the buyer. Any effort expended in trying to push your product to the wrong buyer is wasted. For example, last week I offered a large restaurant chain with which I do business, extra light extracted honey at a very attractive price. However, since they use only dark honey in baking, the attractive price which I had offered in the light honey did not compensate for the rich fullness of the dark honey in baking. Therefore, this proved I was endeavoring to sell the wrong market.

To achieve the best results the seller must determine his proper market and so not attempt to sell a dark blend of honey to a clover honey fancier. Repeat sales can only materialize when selling is directed in the area of greatest acceptance. For instance, a mother with lunches and snacks to prepare for her children might consistently purchase the light honey to be used as a spread, while in restaurant cooking the chef would undoubtedly desire a dark honey with a more pronounced flavor.

Being market-wise, we must sell the 80 percent of the public which has not cultivated a honey preference, and in doing so, advertising, promotion, and sampling can be directed toward this goal. We know that 10 percent of the population has a definite honey preference, 10 percent does not have a taste for the product: therefore, we have 80 percent potential customers. Here we have a market for honey. To help cultivate a demand for honey we must all promote the desire to use nature's most healthful sweet.

Fall Honey

Very often beekeepers are tempted to sell the fall crop as light premium honey. Grocers very often



The simple but attractive rustic honey stand of Julian Joubert which draws the tourist trade on the highway to and from Mt. Rainier, Washington.

present this type of improperly labelled honey as pure clover which is nothing more than a blend of fall honey and is therefore a misrepresentation. This up-grading is damaging from two standpoints: first, it is dishonest; and second, it does not establish satisfied customers. If fall honey is advertised, a trade will be developed for that particular blend and the confidence of the general public will be established. Owing to the sugar shortage during the war, many shoppers bought an off-grade of honey simply to be used as a sugar substitute which built up a sales resistance to the pure grade of honey now offered. Our job is to bring about a taste for good pure honey again. As Barnum said, "There may be a sucker born each minute", but I believe a confidence must be rebuilt between the buyer and the seller.

A Warning

Again this year many beekeepers will unload their honey for any price offer. Not only will this cut into the beekeeper's profit for his year's labor, but it will have an unfavorable bearing on the future market. It is foolish to believe that offering honey at a reduced price will tend to bring more sales. Price cutting is a disease which should be eliminated at once. If a fair price is established and maintained at this time, it will be of great benefit to the honey market which will be placed in a much more favorable position.

Exit the Ant

By Charles J. Koover, Altadena, Calif.

Although it has been available to the general public for over a year, Chlordane, the new miracle ant killer, has not received much publicity. The results with this new insecticide on ants are short of miraculous. According to an experiment station report it is 20 times more effective on all kinds of ants than DDT.

Available in 50 percent wettable powder and 25 percent emulsion, the wettable powder seems the longer effective. The one drawback to the wettable powder is that it is of a greasy consistency when mixed with cold water. However, when very hot water is used it will stay in suspension very well and can be easily applied with an ordinary garden watering can. When it was sprayed by using a garden pressure sprayer it caused no end of trouble by clogging the spray nozzle. The 25 percent emulsion in oil is easily applied by using a pressure pump but it does not seem to give as lasting a relief as the wettable powder does.

One word of warning—there are being put on the market fly sprays which have Chlordane added to them but no percent of Chlordane is mentioned. These concoctions will do a lot of harm to this new insecticide on account of the extravagant claims made for them which may not prove out in practice. In purchasing Chlordane insist on the unadulterated article whether it is the 25 percent oil emulsion or the 50 percent wettable powder. If properly applied your ants will vanish and will stay away for many months.

In my own case the 50 percent wettable powder was applied to the base of my home, all around my bee hives, along the paths in my garden, garden walls, stepping stones, anywhere, in fact, where ants are likely to make their nests. And after six months there still is no sign of ants. It just seems too good to be true after all the annoyances ants have caused in years gone by.

For bees on location it should prove invaluable; one application made with a sprinkling can around the hives should last for the season. To southern beekeepers it should prove a blessing where marauding ants actually attack hives and even overcome them. For once ants get the Chlordane on their footpads it spells the end for them.

OUR COVER PAGE

The splendid specimen of the yucca plant shown on the front cover was sent us by E. A. Bethurum, of Redlands, California. This plant is characterized by its stiff lanceolate leaves and panicles of bell-shaped white flowers.

A Talk to Beekeepers

By M. J. Deyell

We Never Know It All

In beekeeping we never arrive at the place where we can say truthfully that we know it all. Of course, that is true in other lines of business as well.

On some trips made recently over the country, I met a number of beekeepers who are mystified at the seemingly peculiar behavior of bees this past season. Most of these beekeepers say that some years ago when conditions were favorable for producing crops of honey, they could be reasonably sure of obtaining certain results in honey production, covering a period of years. One beekeeper in Ohio said that he has not had a good crop of honey in ten years. Another commercial beekeeper stated that some of his apiaries did well this season, while others only five or six miles away gathered practically no surplus. The strength of the colonies in all yards and the type of apiary management applied was practically the same.

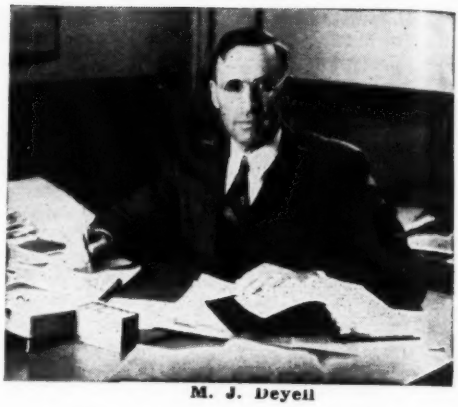
These differences with respect to surplus honey may be due in some instances to local rains. For example, some local showers in this county covered comparatively small areas of perhaps not more than two or three miles in width and four or five miles in length. It stands to reason that honey plants which are benefitted by such local showers would thrive better than those in adjoining areas where rains were not prevalent. It seems, after covering a number of states north and west of here, that similar conditions prevailed there.

Where Are the Big Honey Crops?

We wonder, here in Ohio, if and when we are going to be favored with good honey crops again. Are the failures due to unfavorable conditions for nectar secretion, faulty apiary management, or to some deficiencies in the soils due perhaps to the overproduction of grain crops during the war, or to the lack of legumes to improve the soil? The reason for small crops may lie in the combination of these reasons.

One Extreme Usually Follows Another

If this statement is true, we may be due at some time in the near future, for a series of good honey crops when favorable conditions for nectar secretion return.



M. J. Deyell

The crop from summer sources in this section of Ohio — around Medina—has been quite disappointing. As a matter of fact, the scale hive gained only about three pounds from July 1 to August 1. During that time it lost some weight at times, then gained it back before the end of the month. In our opinion, it pays any beekeeper who has quite a number of hives to keep a scale hive because it serves as a barometer of conditions. We try to mark down the weight early each morning before the bees get out in the fields. The record card is on the inner cover, just under the outer cover.

Requeening — Does It Pay?

On my recent trips attending meetings, I met two commercial beekeepers who talked about requeening. One of them said that he intends to requeen all colonies this fall. The other beekeeper plans to requeen only colonies with old or failing queens. He said further that in his experience two-year-old queens sometimes do better work than year-old queens.

Some 15 or 20 years ago we made a practice of requeening all of our colonies annually during August. If we had requeened one half of each apiary in order to have what might be called check colonies in each apiary, to make a comparison, we would have learned more about the alleged value of requeening an-

nually. I feel that in some instances we removed better queens than we put into the hives in replacing those taken out. It seems a shame to pinch the heads of perfectly good looking queens. However, there is the possibility of such normal appearing queens failing the following spring during the upgrade of brood rearing. When this occurs, colonies that start superseding their queens are quite often valueless unless the owner of the bees detects signs of supersedure in time to remove the old queens and replace with new ones.

An Experience in Western Ohio

I recall one season in western Ohio when it seemed impossible to check through all of the colonies in those yards to remove the old queens — or perhaps I should say the year-old queens—and introduce new ones. We had a great deal of work to do, such as extracting, and managing apiaries in eastern Ohio. I can recall how I worried most of the fall and winter about those apiaries. However, upon checking through the yards the following spring, I was agreeably surprised to find that approximately 85 percent of the colonies had superseded their queens during the late summer and fall months and had produced some beautiful young queens which were in the prime of their egg laying during April, May, and June of the following season. About 15 percent of the colonies had queens beginning their second year. Some of these showed signs of failure, so we replaced them in the spring. Perhaps 5 or 10 percent of these queens went through the second season and headed colonies that produced good crops of honey. The colonies were remarkably uniform in strength—in fact, more uniform than some of the apiaries that had been requeened throughout. This experience caused me to revise my opinion on requeening.

I have a brother who is a commercial beekeeper living near Lindsay, Ontario. One fall, about ten years ago when I visited him I asked, "Well, Huber, have you got all your requeening done?" He said that he had not been requeening annually for a number of years, but that he had tried to replace all failing queens when found.

Inasmuch as there are differences in queens — even sister queens in the same apiary—and since queens are worked very hard these days, especially in the production of extracted honey, it would seem that the method of replacing all queens that show signs of failure is a good one to adopt.

Her royal highness with a few of her daughters on a comb, with some brood.

Beginner beekeepers will want to know how to detect signs of failure. It is usually an easy matter to tell a young queen from an old one. The young queen still has some of the hair on her body, is vigorous in appearance, walks over the combs in a sprightly fashion and, if she is prolific, lays solid areas of brood, provided, of course, the combs consist mainly of worker cells.

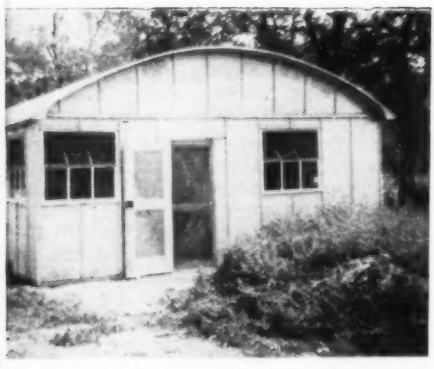
A poor queen may be rather shiny in appearance, somewhat slow in her movement over the combs, perhaps undersized in appearance, and lays in scattered fashion. Just why some queens are superseded apparently as soon as they show signs of failing while others are tolerated so long as they will lay a few eggs, is something I would like

(Continued on page 586)

The Town Hall on Kelley's Island where sessions were held.

Upper left: J. C. Keller, Baxter Woodman (kneeling), C. D. Shinkle, Chas. Reese, Alan Root, and Wm. T. Gran

Norman Dunham, Emerson Long, and Dr. W. E. Dunham.



The new 20 by 40 foot apiary house on Kelley's Island.

Seymour Bailey, State Apiarist of Ohio, Mr. Edwards, queen yard worker, and Roscoe Franks.

Ohio-Ontario Beekeepers' Summer M
Kelley's and Pelee Islands August

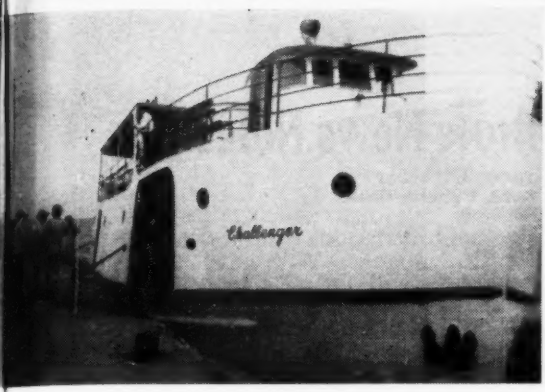
By M. J. Deyell

To record all that took place at this meeting would fill a book. One would suppose that the weather on the Islands would be cool, even in August. Not so. But in spite of the terrific heat, those assembled didn't mind it and were out for a good time. We heard a number of beekeepers say they had the best time they had ever had at a bee meeting.

One evening, following a business meeting, we sweltered until almost 11:00 p.m., and someone said, "Let's go swimming." And so, about 20 of us found a secluded place on the west side of the Island where we hopped in (without bathing suits). It was the best swim I ever had and others who enjoyed it said the same.

Getting to the program: We met in the Town Hall, built in 1861 and still a substantial structure. **Pres. W. T. Gran, Jr.** called the meeting to order and after a few appropriate remarks, called on **Dr. C. L. Farrar,** in charge of North Central Bee Culture Laboratory at Madison, Wisconsin, who related some facts concerning the Kelley's Island bee breeding project, as well as the nature of the work being done.

The details of the breeding program are somewhat difficult for



The boat that took us to and from Pelee Island.

Upper right: A scene on Pelee Island.

pers' Summer Meeting Held at e Islands August 10 and 11

M. J. Deyell

the average person, even a beekeeper to comprehend.

In order to establish certain strains of bees, artificial insemination of queens is employed. The late Lloyd Watson of Alfred, New

C. D. Aphery and Alister Adie, two of the boys at Pelee, standing in front of the grafting house.

York, was the first to introduce the artificial insemination by instrument in 1926. Since that time the technique has already improved. By using this method, certain inbred lines are developed, then crossed, thereby producing a hybrid strain of bees.

In order to evaluate colonies carefully with respect to superior honey-gathering qualities, hardiness in winter, temper, and other desirable characteristics, a great deal of painstaking observation and record keeping is essential.

Dr. Farrar thinks that it is possi-

Part of the queen-rearing yard at Pelee Island.

ble to develop better strains than we now have—bees that will produce larger crops of honey, and that must be kept in mind in any breeding program.

The characteristic of longevity is very essential and should be emphasized in bee breeding. For example, a strain of bees that lives longer than other strains, that builds up more quickly, and retains colony population longer with less effort in egg laying of the queen.

Dr. William C. Roberts of the Madison station was present to demonstrate artificial insemination and to explain the details of the program to those who desired such information.

We were fortunate in having **Leo L. Rummell** of the College of Agriculture, and Director of Ohio Experimental Station, who expressed a keen interest in the program.

(Continued on page 588)

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American Honey Institute News Notes

By Harriett M. Grace, Director
Commercial State Bank Building
Madison 3, Wisconsin

You alert beekeepers know, of course, that our recipes put your product into use. To supplement our supply of recipe books, we have added two more to the list for this year: MILK AND HONEY TREASURES, and LEMONS AND HONEY.

Note the tie-in of Honey with other products. This is good business. What Honey doesn't have as a drawing card for customers, the other product furnishes.

Take milk and Honey together, for instance. Although either product is an entity in itself and needs no support, look at the added appeal that is given to your Honey when you mention Honey Eggnog or Honey Milk Toast.

And the same with lemons and Honey. This new booklet suggests Honey Lemonade or Honey Lemon Layer Cake. The mere mention of one produce brings up the name of the other.

This sort of tie-in publicity for your Honey has proved its worth. Try out these booklets on your next customer—be it housewife, grocer, baker, or wholesaler—and see how well it works.

Price? Ten cents apiece or 5 cents in lots of 100. The booklets have 12 pages, 6 pictures, and believe it or not, come to you at a **lower** price than similar books offered for sale by other promotional Institutes.

We at the Institute can do a lot for you—we can work out recipes, we can publish them in booklet form—but we can not do the complete job. We need your help. These booklets are worthless unless they reach their ultimate goal, the consumer. Let's see that they get there!

We have a "before" and "after" picture for you. The "before"—a 16-page HONEY SPECIALTIES FOR BAKERS—is pushed into the background by the "after"—or new revised 50-page HONEY SPECIALTIES FOR BAKERS.

We revised this booklet, added new recipes to it, improved its make-up, because we feel that the bakers of America offer an expansive and accessible market to the Honey Industry. With this 25-cent book you will be able to convince the bakers in your town to use dollars' worth of your Honey!

For Members Only! As soon as you send us your membership dues we will send in the return mail your membership card. These little cards, a new service that we are giving to you members, are wallet-size, and carry the name of the member on the front. The back boasts a calendar for 1949.

This card will not only serve as identification, but will also be a way for one good member to know another.

Also on the agenda for the mail man to carry to the Institute member this summer is a new booklet written especially for member beekeepers: LET'S SELL HONEY! Based on the idea that Honey selling requires a certain know-how and finesse, this booklet carries suggestions that can carry a beekeeper through a difficult selling period.

We hope that this fall won't bring such a difficult period for you. But it never hurts to have a booklet like this to fall back on. This booklet will be sent to every 1949 member of the Institute. Let us know if you don't receive this book after you send in your dues.

Wish you could see the tear sheets that are coming into the office with your Honey featured in every one of them! Today we got one from the Detroit Times containing a story headed "Sandwich Spreads Made with Honey". Also in the same mail was another tear sheet from the Dallas News featuring "Honey Keeps Baked Food Fresh Longer".

This is the kind of publicity that keeps Honey on a keel with other foods in the present day market.

One of the most effective displays that the Institute had at the summer beekeepers' meetings was a long roll of tear sheets sent in during Honey for Breakfast Week, this April 17-28.

From papers all over the country,

(Continued on page 594)

The Language of Bees

By Leslie Burr, El Centro, California

From time to time for the past several weeks I have been receiving newspaper clippings sent me from various parts of California, describing how bees communicate to their fellow bees the direction and distance where nectar is to be found.

In fact, I have a faint recollection of even having read in an American magazine of some standing, and which is devoted to bee culture, an article on the subject by some professor with a German name.

And so, I was not too much surprised when right here in my home town of El Centro, on this Sunday morning of June 19, the Post Press has an article written by the Sports Editor, dealing with the subject—and it is well written—that is, from a rhetorical standpoint. And, so that you may judge for yourself, here it is:

A Note on Honey Bees

By Don Wilson

We have been listening to an explanation of how bees can talk or communicate with each other. A visitor at the University of California's college of agriculture was telling us. He is Dr. Karl von Frisch, zoologist in the University in Graz in Austria, who is here in this country speaking before a number of American universities, under the sponsorship of the Rockefeller Foundation.

Dr. von Frisch has spent more than 25 years of his life studying the peculiarities and habits of bees, and this matter of communication is just one of his observations. The principal reason a bee has to pass along some information to its fellow bees, is to tell them where some food is to be found, and how to get it. This is what it does. If the bee finds some food, that is, bee food, it returns to the hive, and dances around in a circle. That means that the food supply is close at hand, and the other bees just go out and look for it.

If, however, the cache is farther away, the bee will stop in its circular dance, point in the same direction as the angle of the sun with the food supply, and wag its tail. The number of wags tells the distance. If the food supply is 50 feet away, for example, it wags its tail ten times in 15 seconds. If the food is 1500 feet away, the wagging is at the rate of only six times in 15 seconds. The greater the distance, the slower the wag, up to four and one half miles.

The kind of food is disclosed by the odor of the nectar that the scout bee brings back. So, with the dancing, and the wagging, and the samples, a bee can tell its fellow bees pretty much of all they need to know.

That is what Dr. von Frisch told us, and said he had a complete motion picture to prove it. But, of course, these were European bees that he was working with. Whether or not American bees would understand is another question.

An interesting thing about the Professor's language of the honey bee is the fact that it runs counter to the well established belief when I was a boy 50 years ago, that the bees had a language similar to English—and that when bees swarmed the queen kept talking to the bees, telling them what to do. And the keeper of the bees, in order to bust up the conversation, and the plans of the queen bee, had merely to jam the sound waves. This was done by ringing a bell, if one was at hand, and supplementing the bell ringing by pounding on the dishpan with a clothes pin or better yet, a tablespoon.

The theory of this being that the air waves being jammed and the bees unable to hear the queen clearly—why, the bees would be forced to settle, and so would cluster on some tree or shrub, or other object.

And then old A. I. Root published to the world that the jamming of the sound waves did not always work, and the bees would settle on some tree or shrub just as often without the kitchen music — and much to the disgust of many children, beating the dishpan with a tablespoon went out of fashion, and the bees were allowed to swarm in peace, so far as the noise went.

Now do not think that I do not approve of the Professor's theory that bees tell their fellows (yes, I use the word fellows intentionally) where nectar is to be found, and give the exact direction, together with the exact distance, which can be read in yards, furlongs, leagues, and parasangs.

It is a good story, and there is truth in it. The truth, being one percent of facts, is that bees do dance and wiggle on the combs, and also on the entrance boards of hives at times.

But, when I see the bees coming in, I know the loaded bees because they come in like a bullet, hit the alighting board, and bolt into the hive. And when the bee gets ready to return to the field, he may have a follow-the-leader cry that is shouted to such as want to hear.

(Continued on page 594)

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Editorials

Prospects for Fall Flow Promising There are areas of Eastern Ohio, Pennsylvania, Northern New York, Illinois, Indiana, and most of the New England states where goldenrod, heartsease, aster, and other fall honey plants grow in abundance and furnish a considerable amount of surplus honey. Some people who live where the darker fall honeys are produced seem to prefer them to the whiter honeys.

The wet weather earlier in the season was favorable for development of fall plants. Dry weather has prevailed during the late summer. However, if rains should come there may be an unusually heavy fall flow, which will help to fill food chambers with honey for winter as well as produce surplus.

House Passes, Senate Blocks, Price Support Bill The Morrison Bill, introduced in the House to support honey at 60 to 90 percent of parity, was reported favorably out of the Granger Sub-Committee on Agriculture by attaching honey to Bill HR 29 which proposed price support for tung nuts. After some jockeying on the floor of the House, Congressman Andresen of Minnesota saved the day for the Honey Industry by offering an amendment to include honey in the original Colmer Bill. This was passed favorably by an overwhelming majority with a rising vote. Those who spoke in favor of the Bill on the floor of the House included Walter K. Granger of Utah, Harold D. Cooley of North Carolina, Benjamin F. Jensen of Iowa, John Phillips of California, Leroy Johnson of California, Geo. A. Dondero of Michigan, William S. Hill of Colorado, Edwin A. Hall of New York, James H. Morrison of Louisiana (who introduced the first bill asking for price support of honey), John R. Murdock of Arizona, A. Leonard Allen of Louisiana, Charles B. Hoeven of Iowa, H. Carl Anderson of Minnesota, Cecil F. White of California (who introduced a bill similar to that of Mr. Morrison), E. C. Gathings of Arkansas, George M. Grant of Alabama, August H. Andresen of Minnesota, and John E. Rankin of Mississippi.

The Bill has gone to the Senate where it has been referred to the Committee on Agriculture and Forestry and as Gleanings goes to press we are informed that the Committee approved Title 2, Section 201, for price support but did not include honey. At this writing, therefore, unless some favorable action is taken on the floor of the Senate the effort of the Industry to gain price support for honey will have failed. Since the Senate has a great many important legislative matters to dispose of in this Congress it will require considerable support from the Industry to get the Senate to recognize the need for the passage of this support program.

The Problem of Fermentation in Honey During the years this problem has troubled beekeepers periodically. In some instances fermentation is said to be caused by yeasts that occur during certain seasons. According to Dr. A. G. Lochhead of the Division of Bacteriology, Central Experimental Farm, Ottawa, Ontario, Nature has evolved sugar tolerant yeasts which are able to live and thrive in high concentrations of sugar in which ordinary yeasts are completely restrained. So far as is known, they are the only micro-organisms capable of affecting honey. It has been found that some honey-fermenting yeasts are in the soil in or near the apiary. This soil becomes contaminated with yeast from droppings of wax, nectar, and dead bees and may constitute a source of infection through such agencies as wind and insects.

There is also danger of yeast contamination in the apiary house, but this is within the control of the beekeeper. If he exercises precaution and maintains strict cleanliness at the time of extraction, and is careful to sterilize tanks and other utensils, yeast contamination may be reduced to a minimum.

The growth of yeasts in honey may be prevented — in fact, yeast may be destroyed by heating the honey to 145 or 150 degrees F. for 30 minutes.

Supers of honey taken off during

rainy seasons may start to ferment, even before the honey is extracted. This is due in part to a high moisture content of the honey. During rainy weather the bees are unable to drive off the excess moisture from the nectar.

Some commercial beekeepers in Ontario and New York State are now using the dry-air method of reducing moisture content of honey in combs. The honey house is heated to 80 or 90 degrees F. The supers, after being brought into the apiary house, are stacked up in criss-cross fashion, then one or more electric fans are placed in the room and set in motion to drive the warm air through the stacks of combs. It has been found that this method is quite satisfactory.

Carl E. Killion of Paris, Illinois, one of our commercial producers of comb honey, writes as follows: "For three years we have been getting our comb supers into our shop as quickly as possible after sealing. Supers are criss-crossed to allow free passage of air, and an electric fan is turned on the stack of supers. The room is tightly closed and moisture-removing material is used in the room. We have been using calcium chloride. We expect to install a machine to remove moisture to a lower percentage than possible with our present method. We find that the sooner the excess moisture is removed from comb honey the better the flavor is and loss from fermentation is lessened."

Australia Progressing Apiculturally A recent letter from the Australian Government Trade Commissioner in New York City discloses some interesting facts concerning beekeeping in Australia.

Beekeeping in that country has become a big business. It is estimated that approximately 26 million pounds of honey will be exported to the United States, India, Pakistan, China, the Pacific Islands, Madagascar, various near-eastern countries, and Denmark.

Approximately three quarters of the vegetation of the Island consists of eucalyptus, of which there are 600 varieties. Most of the honey comes from these trees and is of a light clear variety, heavy bodied, and with a mild flavor. There is also some surplus honey stored from white clover, alfalfa, orange trees, and thistles. A production of 350 pounds per colony is not uncommon during a good year.

Migratory beekeeping is practiced on a large scale, some beekeepers moving their apiaries as far as 500 miles or more from the home base. The apiarist lives with his bees during the active season.

Beekeepers in the U. S. and other countries who are not now securing satisfactory returns from their bees might be tempted to launch out into commercial honey production in Australia.

Honey in Bread When honey was high priced and hard to get, many commercial bakers tried various substitutes. That the substitutes do not furnish all the good qualities of honey is proved by the fact that bakers are again buying honey in large quantities. The bread stays fresh longer and the crust acquires a rich golden brown color not possible when other forms of sweets are used.

"Hope Springs Eternal" Some commercial beekeepers, not to mention side line or backlot beekeepers in some sections of the country, have been waiting patiently for a good honey crop during the past decade. The side line beekeeper who does not have to depend wholly on bees for a livelihood can stand some crop failures, but the commercial beekeeper who relies on his bees for a living must derive a reasonable margin of profit to continue in business.

According to work done some years ago by the Department of Agriculture on honey production costs it was the consensus that a commercial producer should secure a 90-pound average in order to make a reasonable profit. According to that standard many beekeepers have been losing money recently.

During war times when honey prices were high, beekeepers could get by on medium-sized crops but now that honey prices have declined and labor, as well as bee material, has advanced, it is imperative that cash returns from bees be adequate to more than pay expenses or the commercial man will go out of business. This is a serious situation, especially since more bees

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are needed for pollinating farm crops.

It seems probable that in the near future legume seed growers may be willing to pay rental on hives of bees to help insure good seed yields. Recent reports from some areas indicate progress along this line. If the beekeeper can derive some income from rentals he may be able to continue in business until conditions are more favorable for producing larger crops of honey. Larger crops are likely to come in the clover area when more legumes are used for soil enrichment and seed production.

The old saying "Once a beekeeper always a beekeeper" still holds and it is the eternal hope in the breasts of beekeepers that causes them to continue on—hoping for a brighter future.

Colony Morale The following editorial appeared in the August 1927 issue of Gleanings and was written by the late George S. Demuth, former editor of this journal, during one of the best honey seasons ever experienced in this area. It came out of actual experience in Mr. Demuth's apiaries near Peru, Indiana. After more than 20 years, we still know too little about colony morale.

There was excellent opportunity in the Editor's apiaries this season to note the difference in the spirit with which bees work under different conditions. Since it was necessary for him to be at his desk 300 miles away from the apiaries just at the time the colonies needed most attention in coaxing them through the season in the highest working spirit, many things went wrong and upset the working spirit of a number of colonies in the very midst of one of the heaviest honey flows that has ever visited this section of the country. As a result, some colonies had finished five comb-honey supers, and had four more that were well along toward completion by July 9, while others apparently as strong had finished only three supers with only two or three more on the hive.

The poorest work was done by colonies which swarmed during the Editor's absence and lost their queens, then failed to accept the young laying queen which was introduced after destroying all the queen cells nine or ten days after the old queen was lost. When no eggs were found on the next visit after introducing a young queen, a frame of brood was given these colonies which caused them to work much better, but on July 9 they were far behind the others. Just what the result will be at the close of the season is yet to be seen, since the clover honey flow was apparently at its peak at about that time. While the percentage of such colonies was small, the loss in a season like this is considerable. A few colonies that had been shaken in making artificial swarms lost their queens shortly after shaking, apparently by swarming out. The queens being clipped, the swarms returned to their hives but did very poor work until a young laying queen was introduced, when these colonies forged ahead in a surprising manner. By looking down the row of hives, the ones that were working best in supers could easily be picked out by the greater activity of the field workers.

While keeping the working forces of strong colonies together without division during the honey flow is considered orthodox teaching, one wonders if in a season like this it is not folly to compel such enormous colonies as prevail in the clover region this season to work in one hive during the honey flow. It is surprising to note the amount of honey stored by nuclei in comparison with the work of strong colonies when the number of workers is considered. Apparently the workers in a nucleus or small colony gather and store much more honey in proportion to their numbers than does a strong colony. If by careful management the strong colonies could be induced to work with the same spirit as small colonies or newly-hived swarms during a season like this, the result would be astonishing.

In a few cases colonies were divided during the honey flow with the result that the colony left on the old stand was well along on its ninth comb-honey super on July 9, while the division set to one side had already filled two supers. The combined production of the two colonies in these cases was two supers more than the best colonies in which no division was permitted.

There must be a limit somewhere to the number of bees that will work in one hive to the best advantage in comb honey. In producing extracted honey, the bees of the colony can be more easily induced to distribute their work through the great pile of supers, which makes this quite different than in producing comb honey when the bees are compelled to build comb. No such differences in the working spirit of colonies as described above was noticeable at any time in colonies working in extracting supers. They forged ahead at high speed as long as they were supplied with plenty of empty combs, even when queenless. Apparently the building of comb is first slowed down in queenless colonies, which later results in a slowing down of field work because there is no place to store the incoming nectar.

Entirely too little is known about the maintenance of the highest possible spirit of work in colonies of bees during a good honey flow, and its importance is not fully realized. We talk about the necessity of having the colonies strong at the right time, but when some of these extra-strong colonies actually store less than others having only half as many bees, simply because of some condition which reduces the spirit of work, it is evident that the maintenance of a high colony morale is in many cases even more important than having the colonies very strong. This is by no means an argument against strong colonies. The stronger they are the better, provided the great army of bees can be induced to work with the proper spirit. This is a problem that deserves most careful study.

From North, East, South and West

SOUTHERN CALIFORNIA, Aug. 2

Weather: The weather over most of Southern California is very dry excepting where fogs drift in from the ocean occasionally. However, we have had very delightful weather — neither too hot nor too cool.

Honey Crop: Generally speaking, the honey crop is over in this section of the country. But we have the great irrigated fields of the Imperial and Palo Verde Valleys, which continue to produce honey for a longer time. A somewhat new crop here is the Hubam clover. There is quite an acreage planted and it serves as pasture land, cover crop, and for seed. It is also a very good honey-producing plant and will help to increase the yield from that section.

There are thousands of acres of alfalfa grown for seed in the Imperial Valley. When in blossom it is a good honey producer. Generally it is rather a dark honey but of good quality. From all the various sources in this valley they should receive an average of well toward 60 pounds per colony.

Some bees have been moved from the desert buckwheat ranges to the cotton. These buckwheat ranges yield very satisfactorily when they get late spring rains. But they did not get the usual showers this year so the yield was very light.

Just how well the cotton in Kern and Tulare Counties will yield is yet to be learned. Some bees were moved there as late as the middle of July. By far the larger part of the acreage has been planted to a new variety that seems to have a lot of merit. Whether the blossoms from this new variety will yield more or less nectar than the old standard kind is yet to be proved.

The lima beans of the coast regions should produce their quota of honey. By gathering a little here and a little there, it all helps to keep the business interesting and to keep the beekeeper moving.

Miscellaneous: With from 20 to 50 acres of alfalfa here and there in these sections being allowed to bloom, there should be a chance for bees within reach to get a good fill-up to help with winter stores.

If you have not read "City of the Bees" in the August Readers' Digest you certainly should hunt up a copy and read it. It gives in detail many of the habits of the bees which we seldom think about. It is a well written and a very interesting story.—L. L. Andrews, Corona, Calif.

NORTHERN CALIFORNIA, Aug. 1

Weather: Scattered showers occured in portions of Northern California over the week end, varying from a trace to a fraction of an inch, doing no particular good or damage. A good rain for the valley would be most unusual and can hardly be expected. The shortage of spring rainfall is being expressed by dried pastures and reduced growth of star thistle. Cooler nights than normal, and rather comfortable days have tended to offset the effects which would have resulted from higher temperatures. As a result, plant conditions are somewhat more favorable than was anticipated some weeks ago. Forests and unirrigated fields are tinder-dry and constitute a definite fire hazard. Beekeepers must protect their apiaries against the threat of fire.

Plant Conditions and Nectar Yield: As mentioned last month, the yellow star thistle is rather thin in places but reports indicate that in favorable locations the nectar yield is satisfactory. How much longer the flow will last depends to a large extent on the weather conditions. A heat wave would tend to dry it up in a hurry. Alfalfa did not yield as well as expected in many locations during the month of June and up to the middle of July. Then the flow became appreciably better. In some areas the nectar flow was good during most of July. In one seed area where the flow was exceptionally

good last summer, it did not begin until some weeks later this summer. The shortness of the season will cut down the total yield so that the average production may be under a commercial yield or insufficient to justify the location from the standpoint of honey production. Lima beans are coming into bloom and are yielding normally. Baby limas appear to be a regular producer where they are grown in Northern California. (We would like to hear from any beekeeper who has noted exceptions to this observation.) Some beekeepers have reported loss of bees in areas sprayed and treated with chlordane for grasshopper control, weakening the colonies to a point where they cannot gather surplus. Unless this colony condition is noted, the results could be blamed on "adverse nectar conditions" or "lack of soil moisture" or other intangible factors which tend to reduce the season's crop.

The Honey Market: The School Lunch Program cleaned up several centers of honey left from last year and should strengthen the market for this season's honey crop. Many of the packers are pushing their work of preparing orders for this program in order to get ready for the new crop. Until they are out of the way, the processors may not be in the market for more honey for immediate delivery. This raises a point which some beekeepers have been considering for some time. Should they contract for the sale of their honey, subject to delivery at a future date, or find a market for immediate delivery? If the honey is sold for immediate delivery as soon as it is produced, someone has to pay for storage, insurance, and duplications in handling. On an unstable market, few buyers will want to carry these charges in addition to the risk of price fluctuations. The producer generally pays the bill, either in reduced offers per pound or by placing it in bonded warehouses so he can borrow on the warehouse receipts if necessary. Many simply carry the honey in their own warehouses. Cooperatives have an arrangement for the delivery of honey as needed and most of the honey is held by the producer. The producer also shares the risk of lower prices and participates in the returns from the sale of honey above costs of packing and marketing. It would be a distinct benefit to the honey industry if the producer would always plan to carry his honey in his own warehouse or in a bonded warehouse for some months or until it can be sold in an orderly manner. Some California buyers have a provision for placing the producers' honey in a warehouse under bond with permission for the producer to sell to other buyers if he can get more for it at the time the owner of the warehouse can move it for him. A federal floor price for honey, as has been set for other crops, would take some of the risk out of marketing and would also tend to set the price at that level. Since the government has taken over a few million bales of cotton, has had to buy many million bushels of potatoes, to mention only two commodities, they are apparently going slow on adding many other farm commodities to their list. The cost to the government of a floor price for honey would be infinitesimal in comparison to cotton or potatoes.

While going to and from the Pollination Conference in Seattle, I took occasion to ask for honey in most of the places where I ate and, as usual, honey was seldom on the menu or available. Why? Do we have too few outlets for the sale of honey or too few salesmen who are actually interested in pushing the sales?

Miscellaneous: During the past two wars, booby traps were set up with rather attractive baits by contending troops. Wherever any soldier picked up one of these baits without investigating its possibilities, he frequently got badly hurt. Some of the clovers which are being grown for seed do not yield commercial quantities of honey for the number of colonies which are most desirable for maximum seed production. Unless the beekeeper has an understanding with the grower concerning his needed return from his colonies for the services rendered to seed production, he may get hurt economically by ending the season in the red. Some of the seed areas look excellent from a honey-producing standpoint —and they might be for a colony or less per acre—but when two to five colonies per acre are in the area, the fields are actually "booby

traps" for the beekeeper who has to depend on the surplus honey produced. Depending on varying costs of production and the risks of chemical poisoning (another factor of no mean proportion to add to the booby trap idea), beekeepers estimate that it is necessary for each colony of bees to gross from $10 to $30 per season in order to return a living wage to its owner. A written agreement which will be of mutual benefit to the grower and the beekeeper is the only answer to this problem.—J. E. Eckert, University of California at Davis.

BRITISH COLUMBIA, August 8

Weather: For the beekeeper it seems necessary to commence this report with remarks about the weather and its bearing upon the season's honey crop, but it is difficult to remember any unusual features.

After the long winter a lot of hives were short of stores by the first of March, necessitating heavy feeding of those colonies which survived. But strong colonies paid off when fruit bloom came along and gathered a record amount of nectar from that source in this locality.

Some swarming resulted from the heavy fruit flow but for the main flow very little trouble was experienced and we were able to get away with top supering from a date quite early in the season.

Crop: From reports received, results in the province as a whole have been spotty and it is doubtful if the total crop for 1949 will exceed or even reach a normal average.

Irrigated sections with outcroppings of sweet clover have this season been in the most favorable position.

Miscellaneous: Locally in this fruit-growing Okanagan Valley we are profiting by the change in orchard practice through which the use of arsenate of lead as an insecticide has been practically eliminated.

DDT has proved far more effective in codling moth control and does not apparently cause serious losses to the bee colonies. Our fingers are still crossed, however, as various other poisons are still being tested against such pests as red mite and pear psylla, against which DDT is not effective.

Speaking of pests reminds me of a news item in the local press to the effect that farmers in the Peace River block in the most northern part of this province have largely curtailed the keeping of bees owing to the depredations of bear which are very numerous there. The report stated that as a result of the lack of bees the alfalfa seed crop is most disappointing this year.

Market: Prices have not yet been set for the current honey crop but a good demand is already in evidence as there has been very little B. C. honey on the market for the past six months. — G. F. Pearcey, Kelowna, B. C.

IOWA, August 2

This is the season of the year when the beekeeper is looking back to see what has been done and casting an eye ahead to see what needs to be done.

Crop: The crop of honey in Iowa is reported as fair to good. The latter part of the season has not been as favorable as the first part of the season was. Anticipation and expectations were really beyond the present reality.

There are certain factors which have influenced the total crops for the season. Most of the colonies over the state were in a decidedly weakened condition as a result of wintering. These colonies were very slow to build up. In fact, they have attained good strength on the honey flow rather than before the honey flow. On the other hand, packages built up very nicely and they will be responsible for a large proportion of the total crop of the state. Most operators were in a position to supply ample room to the colonies for they were operating a reduced number of units and were well supplied with empty combs. The acreage of legumes has been a surprise to everyone. It is difficult to explain the tremendous increase in the number of plants available for honey production. Weather conditions seem to be unfavorable for nectar secretion by white sweet clover which is one of the main sources of honey in the commercial producing area of the state.

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The interest in pollination is increasing almost beyond the supply of bees for that purpose. Many beekeepers have reported that they have had demand for three or four times the number of colonies which are available. This cooperative arrangement between the beekeeper and the seed producer is certain to develop into something definitely worth while for both parties concerned. The beekeeper must make certain that the colonies provided are of good strength and that the number of colonies is ample to do a satisfactory job of pollination.

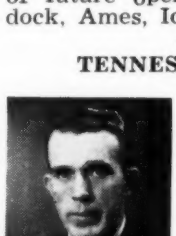
The beekeeper needs the answers to several questions. The time of spraying is almost at the top of the list for most producers. There has been an increased interest this year on the part of municipalities for airplane dusting in an effort to control flies and mosquitoes in the vicinity. In several instances there has been an attitude of cooperation between the beekeeper and the city officials. There has been a definite increase in the amount of spray application for the control of corn borer. This is certain to increase in the years ahead since probably only 5 percent of the acreage of corn was sprayed this year in an effort to control the corn borer. When the ravages of the corn borer become really evident on every farm there will be a step-up in the interest in the control of this pest. Grasshoppers have been plentiful in pastures and hay lands. This has resulted in some spraying which has been closely associated with a seed-production program. There is an increased interest among those who are spraying to consider the effect on the honey bee population. Roadside spraying for weed control probably will be a definite benefit. It is possible that this is partially responsible for the return of a plentiful supply of legumes along roadsides.

Market: The marketing situation is of course giving immediate concern. The first question is "What will be developed as a government program for the benefit of honey producers?" Second question is "What will be developed through the regularly established channels of trade to move the present honey crop?" There is left one opportunity for effort and that is the local market. During the last few years the local market has definitely been neglected by the local producer. Honey has moved through the regular channels of trade to outside markets for the most part but in some instances to come back to the local market. Producers are advised to give careful consideration to the possibilities of a local market

The next big question is relative to 1950 operations which must be started at this time. The first question to consider is the number of colonies which will be in a condition to winter successfully. Then there is the relationship of this number of colonies to the total operations for next year. Of course, it will be possible to increase the units operated through the purchase of package bees but there remains in the minds of the producers the relationship of the price of honey to the price of package bees next year. This is a matter which affects not only the honey producer but the shipper of packages. So it is in reality not a local problem but a national problem.

The beekeeper is then forced to make a settlement to these questions enough to indicate the course of future operations. — F. B. Paddock, Ames, Iowa.

TENNESSEE, August 1



Weather: Temperature during June and July was above normal with excessive rainfall, not too good for the honey flow. Although the flow in middle Tennessee was good, the eastern part of the state had little or no honey flow. These are mountainous regions that depend on sourwood trees as sources of nectar which bloom in July. The heavy rains most every day cut this flow 50 percent or more. No reports are available from the cotton belt, which is west Tennessee.

Condition of Bees: Bees in most sections are in excellent condition and with a wet July prospects are good for a fall honey flow. Bitterweed, which yields heavily and produces a very poor quality honey, is

blooming at this writing and continues for six weeks or more. By this time aster, the fall source of nectar, will be blooming and is a very fine flavored honey. It is very difficult for the beekeeper to get bitterweed honey off and supers extracted for the aster flow. Some beekeepers who have extra supers do not have this trouble.

Market: The demand for chunk comb honey has been very good and most producers have sold their spring crops at prices above the average. Extracted honey is moving well and very little is in the hands of producers.

Miscellaneous: I see no reason for a sudden drop in honey prices as the demand is good and the consumer is willing to pay for good honey. Some are packing honey in containers not appealing to the eye and using labels without the word "honey" appearing on them. Incidentally, these people report sales slow. A lot of work is needed on this and it isn't fair to the fine product they have for sale.—Leslie Little, Nashville, Tennessee.

OREGON, July 28

Weather: We had one of the severest winters in the memory of the pioneers which was also severe on the bees, the result being a heavy winter loss. After the winter was over the remaining bees built up very slowly and this spring there was very little swarming. The normal rainfall from the first of January to the present time is 23.66 inches and we have had 28.32 inches. This is the Portland, Oregon, reading. At the present writing (July 28), the weather is normal, and during the hairy vetch flow the weather was ideal.

Honey Crop: It is a little too early to make an accurate prediction as to the honey crop but it appears now that it will be below an average crop which is 33 pounds per colony. Over the entire state the crop is spotted. In Baker County, which is in the northeastern part of the state, the honey flow from alfalfa is a total failure on account of the weevil getting into the alfalfa. Around Nyssa, which is in the southeastern part of the state, there is now about 60 pounds of honey on each colony and the flow is not over. In the Willamette Valley the flow from hairy vetch is spotted but it will probably average a little less than 60 pounds per colony. The fireweed flow is not far enough along to make any kind of a prediction. The reports are that it started off good and then we had a rain which stopped the flow. It may start again because we are now having excellent weather.

Roadside spraying is general over the entire state which is causing a great loss of bees.

Prices: The beekeeper in this state is having a hard time. Honey is not much in demand and the price is low. This evening I stopped in one of our chain stores and the 1-pound jar was retailing for 25 cents. The 5-pound cans were selling for 79 cents and 85 cents. This honey was shipped in from two other states. How the beekeeper can sell honey for a price so it can be retailed at the above prices, after he has paid the present high prices for equipment and labor, is beyond my understanding. In my opinion if he is to survive he must get other revenue from his bees, such as a fee for pollination. This was practiced this year. Many beekeepers trucked their bees to the orchards at Hood River and the Dalles. There was a good demand and many of the beekeepers were unable to fill their orders. If this revenue is cut off there will be a reduction of bees which of course will decrease the crops of fruits, seeds, and vegetables. At the present time there is a great deal of interest along this line. Numerous articles have appeared in the local papers and several talks have been made over the radio, so there may be a silver lining in the present dark cloud.

Miscellaneous: One of the bad features of beekeeping here in the Willamette Valley is that we have no honey flow after the first part of July which is after the hairy vetch flow, unless we have a flow from fireweed which is once in about every six years. We would like to have a good dependable honey plant for a flow in July and August.

At our last meeting in Portland, which was on July 19, we had as our main speakers Frank C. Pellett of the American Bee Journal, and Glenn O. Jones of the American

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Federation. Both men made excellent talks and we were indeed fortunate in having them.—John F. Erickson, Portland, Oregon.

COLORADO, July 21

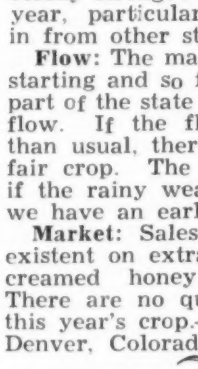
Weather: Most of the state started with a late spring. Many days from then on were cloudy with intermittent rain. In many sections, days of good bee weather have been scarce. At this time in the San Luis Valley there is no indication of change.

Colony Condition: Because of the late spring many beekeepers found it necessary to do considerable feeding. In some cases, bees built up good while in others the build-up was slow. On an average, colony strength is below that of last year, particularly colonies moved in from other states.

Flow: The main flow was slow in starting and so far is still slow. No part of the state has reported a good flow. If the flow continues later than usual, there is a chance for a fair crop. The crop will be short if the rainy weather continues and we have an early frost.

Market: Sales are slow to nonexistent on extracted honey. Good creamed honey is moving fair. There are no quotations as yet on this year's crop.—Albert L. Crouse, Denver, Colorado.

TEXAS, August 10



Weather: The temperature during July was about normal with no extremely high temperature recorded such as often occurs in midsummer. Rainfall was generally favorable and well distributed over the various sections of Texas. However, floods occurred in some local areas.

Bees and Honey Crop: The early season offered little promise of a normal crop due to a rather severe winter for Texas and a backward spring, but timely rainfall brought bee plants into flourishing condition with abundant and prolonged bloom. Colonies built up well and took full advantage of the honey flow. Horsemint yielded well in most of its range and in more favored areas an average of well over 100 pounds per colony was realized. The flow from cotton was above average in the lower Rio Grande valley and in central Texas and continues well in north and northwest Texas. Bee losses from insecticidal poisoning were generally light. However, southwest Texas reported some loss from love-vine (dodder). Hubam clover was seeded later than usual but the yield from this source was satisfactory. Considerable clover was seeded with small grain. After the cutting of the grain second growth clover bloomed profusely and added materially to the clover yield. The vetch bloom was rather spotted but some yards gave a fair extracting. Some yards in usually poor locations gave a surplus of unknown source. Continued rain is highly beneficial for broom-weed, aster, and other late blooms for nectar and pollen in the fall.

Market: Retail grocers are well stocked with honey but consumer demand remains slow. Retail prices range from 24 to 33 cents per pound glass jar with comb honey about 5 cents per pound higher. With no large lot sales reported, there appears to be no definite price to producers. Most producers are marketing in small lots to groceries and directly to consumers in their trade territory. The situation in the honey market shows little optimism at present.

Miscellaneous: The State Apicultural Research Laboratory has just been transferred from San Antonio to College Station where the work started more than 25 years ago. Southwest Texas in the early years formed the heart of the beekeeping territory in the state. Guajillo, mesquite, and catsclaw were the chief sources of honey and large honey crops were obtained. Agricultural progress brought a steady removal of the native brush which was replaced by grasses which made far better pasture for livestock and farms with better crops under the practice of soil conservation. The better adapted crop varieties are generally not important bee plants, consequently beekeeping has steadily declined in that area. Central and north Texas is now growing sweet clover, alfalfa, and vetch in increasing acreage. Sweet clover

has become the No. 1 honey plant and beekeeping is expanding in these sections. Older readers of Gleanings will remember the early contributions from **Southwest** by Louis H. Scholl prior to World War I. This was followed by the column **Texas** by F. B. Paddock, now State Apiarist of Iowa. H. B. Parks continued the column during his service with the Apicultural Laboratory from 1920 to 1945. This writer succeeded Mr. Parks in 1946.

The Texas Beekeepers' Association will hold its annual meeting at College Station on October 3 and 4. A large attendance is expected and anyone interested in beekeeping is invited.—A. H. Alex, College Station, Texas.

ONTARIO, August 10

Weather: Since sending in my last budget of notes, the drouth that has plagued Ontario during the past three months has been partially broken by scattered thunder showers, some of hurricane proportions. However, no general rain has yet covered the province. Here in Central Ontario we have had a few showers in local areas which have wet the ground quite well, and bees are working well on goldenrod and second crop legumes. As far as my observation goes there is no buckwheat in my bee range, yet today, August 10th, I smelled it quite plainly in one apiary. Somewhere, tucked away out of sight, is a patch the bees have ferreted out. Buckwheat is an uncertain source of nectar throughout Ontario. It is planted fairly extensively in late wet springs when low lying land doesn't dry out in time to plant to spring grain. This year with a dry spring practically all available land was in good condition for early seeding, consequently little buckwheat is available now.

This season we have had remarkably little swarming, no doubt due to dry weather and consequent nectar dearth. Our bees were in poorer condition generally the latter part of June than they were in early May, and under those conditions they were disinclined to build cells. They even refused to build cells on young brood raised into the supers. Brood rearing has stepped up recently under the influence of a light flow, which will bring colonies to suitable wintering strength.

The Crop and Price Survey Committee of The Ontario Beekeepers' Association met during the latter part of July to review crop conditions and make recommendations for price schedules covering the 1949 crop. From replies to a questionnaire sent out to representative beekeepers throughout the province it was found that the light honey crop ranges from zero to 100 pounds per colony. Early summer frosts and prolonged drouth have curtailed the crop of light honey to a marked degree.

Latest reports from other honey-producing areas of Canada indicate less than 70 percent of a normal crop. This should mean firmer prices for honey during the coming year. The committee recommended the following prices:

Sales direct to consumers — 2's, 50c; 4's, 95c; 8's, $1.80; bulk, 20c per pound.

To retail stores—case of 24 2's, $9.60; case of 12 4's, $9.25.

The Canadian National Exhibition commences in Toronto on August 26th and continues until September 10th. This exhibition features a very attractive prize list for comb, liquid, and granulated honey, as well as beeswax. In the display section, individual exhibits are allowed a space six by eight feet, and must contain at least 300 pounds of honey. Beeswax and suitable decorations are permitted. The first prize is $75, which is a real encouragement to beekeepers to compete. Last year over two million persons attended the exhibition, so the advertising value of these displays can scarcely be measured.

Miscellaneous: During the past months I have had calls from a number of beekeepers from Pennsylvania and Ohio who are vacationing in the Kawartha Lakes area. I will always be glad to have the opportunity of a visit with any of the neighbors from south of the line who may be spending a holiday here in Ontario's great summer playground.—Allan T. Brown, Peterborough, Ontario.

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Wisconsin Beekeepers' Summer Meetings

By H. J. Rahmlow, Madison, Wisconsin

Speakers at the meeting—left to right: Robert Knudson, John Long, Wm. Waterman, Mrs. Phyllis Huffman, Roy Grout, Jack Deyell.

The Wisconsin Beekeepers' Association holds two summer meetings each year. This year the meetings were held at Janesville Municipal Park and Eau Claire Lakes County Park near Eau Claire on July 26 and 27. The beekeepers really get down to business and work hard at these meetings. There is never a dull moment. The program begins at 10:00 a.m. and ends promptly at 4:00 p.m. The cafeteria style luncheon at noon is most enjoyable. Families are accustomed to bringing dishes of food which are placed on the tables by the ladies. All those who do not bring food have the privilege of buying a ticket at 65 cents. Those who bring food are given free tickets.

Speakers at the meetings this year were: John Long, State Inspector; his assistant, Wm. Waterman; Mrs. Phyllis Huffman of the American Honey Institute; and H. J. Rahmlow, Secretary of the Wisconsin Horticultural Society, who plans the meeting with the cooperation of the officers. From out of state came Roy Grout, President of the National Beekeepers' Federation of Hamilton, Illinois; and M. J. Deyell, editor of Gleanings in Bee Culture, Medina, Ohio. Ivan Whiting, President of the Southern District of the Association, presided at Janesville, and Robert Knutson, State President, presided at Eau Claire Lakes.

At both meetings beekeepers voted against a proposal to ask the legislature to enact a law prohibiting the importation of bees on combs into the state. However, they voted unanimously that those who bring in bees from outside the state must have them inspected within ten days after arrival, pay for the cost of inspection, and notify the state inspector of their intended location.

He Got the Bear

President Robert Knutson of Ladysmith stated at the Eau Claire meeting that he has trouble keeping bears out of his apiary and that they do considerable damage once they get in. He said he was eating lunch one noon in an outyard when a bear walked in. He got the bear. His nephew Chester decided to

watch for another bear which was molesting colonies and slept in a truck in the outyard overnight. He heard a noise, looked out the window of the truck and found himself looking into the face of a bear. In the future he prefers to sleep elsewhere.

Mrs. Phyllis Huffman, assistant to Mrs. Grace of the American Honey Institute, told an interesting story about the work of the Institute. She said, "The gravy train has stopped, we must now get out and walk." She showed a roll of paper on which clippings from newspapers and magazines had been pasted which reached across the entire meeting hall. It was the result of promotional work by the Institute on "Honey for Breakfast Week" last April. Mrs. Huffman said, "If you want the American Honey Institute to do still more work you have only to say so by your contributions."

Illinois, Minnesota, and North Dakota Summer Meetings

By M. J. Deyell

About 350 people arrived at the Mt. Sterling, Illinois, meeting in time for the fish fry at noon. Some of the crowd had to wait until more fish were caught.

Prior to the meeting we enjoyed a tour of the plant of the Illinois Honey Producers' Association, with Leonard Robbins explaining the equipment. It is an up-to-date processing plant.

G. H. Cale of the American Bee Journal sounded a large dinner bell and each speaker was allotted a certain amount of time. If he exceeded it the bell would ring. I heartily wish more chairmen of meetings would follow this plan. Mr. Cale is to be complimented on the manner in which he conducted the meeting.

According to **Leonard Robbins,** who talked on the Use of Bees for Pollination, the present demand for bees in connection with seed production is bound to increase — in fact, it seems probable that there may be a shortage of bees in the near future. Legume seed growers are willing to pay around $8 per colony.

Carl Killion told about the use of pollen supplements for building up populous colonies in readiness for the major honey flow. He also passed on some tricks of the trade in connection with producing fancy sections of honey: very populous colonies at the right time, correct supering and removing honey when it is capped and before it becomes travel stained.

Dr. V. G. Milum is of the opinion that the insecticide problem is more serious for beekeepers than the average beekeeper realizes.

It was the consensus that more beekeepers should try producing section comb honey because it is needed to supply the demand, and to help sell extracted honey.

Wesley Osborn thinks that honey should be graded on color rather than on flavor.

The Minnesota - North Dakota meeting at Detroit Lakes was well attended. Beekeepers in that area gave varied reports, some receiving fairly good crops, others getting small crops. The quality of the honey is unusually fine.

Roy Grout, President of the American Beekeepers' Federation, presented a report on the work of that organization, as well as some experiences he and other men from our industry had in Washington recently. In order to receive recognition at Washington, the beekeeping industry must be better organized in the future.

Dr. J. Alex Munro of Fargo, North Dakota, gave a helpful talk on beekeeping problems and emphasized some of the changes that are taking place from year to year. Sweet clover is held back by weevils but it will eventually come to the foreground if the weevil can be successfully combatted.

R. W. Anderberg, President of the Minnesota Association, and **D. C. Langley** of Red Wing, Minnesota, past President, emphasized the need for stronger state associations.

Our old friend **Jerre Frazer** of the G. B. Lewis Co., formerly of Ohio, now at Sioux City, had charge of the open evening social get-together and as per usual kept things lively. Beekeepers do need relaxation during these days of comparatively short crops and narrow profit margins.

XUM

Just News

The Lackawanna County Beekeepers' Association (Pa.) will hold a bee tree hunt on September 25. Many of the members own wooded areas and permission has been obtained to cut the first tree found to contain a colony of honey bees. The Association's 4-H affiliate has shown keen interest in this unique sport and the youngsters may outperform the old timers. The hunt will get under way at 2:00 p.m. from the farm of Robert A. Hull, Jr., located on Route 347 in North Abington Township. Visitors welcome. The Association has planned to participate in the several fairs to be held in this vicinity this year. The display will consist of a hive with its component parts including a smoker, hive tool, extracting equipment, and other items used in honey production. There will also be a display of honey produced by the beekeepers of this area. As an additional effort to bring the activities of the association before the public, a float will be entered in a parade which will be held in Scranton, Pa., on October 15. This parade will climax Pennsylvania Week which is being celebrated all over Pennsylvania during that week. This might be an idea for other beekeepers' associations to get some advertising at little cost. Jesse Landenberger, Lackawanna County Farm Agent, has taken an active part in the farm part of the parade and has arranged for the entering of the beekeepers' float.—Roswell J. Parker, Sec.

* * * * *

Bronx County Beekeepers Association will hold a joint meeting with the Apicultural Board of Westchester, Long Island, and New Jersey on September 11 at 1:00 p.m. at the apiary of Henry Kroger, 3661 Eden Terrace, Bronx, N.Y.C., near East 233rd St., Route U.S.1, Boston Post Road. Prominent speakers will be present. Come early and bring a basket lunch. Beverages will be on ice. Colored motion pictures will be taken periodically throughout the entire meeting. All are welcome.—Sam Roberts, Sec.

* * * * *

Leslie H. Little of Shelbyville, Tennessee, will succeed J. M. Amos as State Apiarist of Tennessee. Mr. Little is a successful honey producer and queen breeder and is president of the Tennessee State Beekeepers' Association.

* * * * *

The annual meeting of the Southern States Beekeepers' Federation, usually referred to as the **Southern Conference,** will be held jointly with the annual meeting of the American Bee Breeders' Association, at the Whitley Hotel in Montgomery, Alabama, on November 17 and 18.—Edward C. Hanson, Sec.-Treas. Southern States Beekeepers' Federation.

* * * * *

The Kansas State Beekeepers' Association will hold its fall convention in Ripley Park, Topeka, Kansas, on October 2. With other points of interest to beekeepers of the state will be a panel discussion on the subject "Sulfa Treatment versus Burning of Bees" pertinent to the changing of policies and laws in Kansas. One member of the panel is Roger Smith, State Entomologist of Kansas. Chairman of the discussion group is Carl Barnhart of Wichita, Kansas. Bring a basket lunch to spread together at noon. Everyone is invited. An interest in bees is your admittance ticket.—D. R. Meredith, Sec.-Treas.

* * * * *

The Westchester County Beekeepers' Association will hold a joint picnic-lunch meeting with the Bronx and North Jersey Beekeepers' Associations beginning at 10 a. m. on Sunday, September 18, at the home of Henry Kroger, 3661 Eden Terrace, Bronx 66, New York. (Off Boston Post Road west.) Members and others interested in attending can plan to spend an interesting day as there will be speakers and field demonstrations. Don't forget the picnic lunch! P. S. Don't fail to come and see the Westchester County Beekeepers' Association Exhibit and Display to be given in conjunction with the Westchester County Fair held from September 9 to 17 at the Blind Brook Polo Grounds, Purchase, Harrison, New York. An expert attendant will be on duty at all times to answer all questions regarding beekeeping.—B. F. Miller, Publicity.

There will be a field meeting of **the New Jersey Beekeepers' Association** on September 17 at the Grange Hall in Beemerville, Sussex County, New Jersey. After lunch, the apiary of J. Woodward will be visited. There will then be a trip to the Dairy Research Center where the types of clover and other legumes will be explained by the Director, Dr. Eby.

The October meeting of the N.J. B.A. will be held on October 15 at the queen yard of Henry Brown in Burleigh, two miles south of Cape May Court House, New Jersey. Mr. Brown is the originator of a stingless strain of bees.

* * * * *

The **Virginia Beekeepers** will hold a Beekeeping Short Course at Blacksburg on September 12 and 13. All beekeepers are invited to attend this course in beekeeping. It will be held at the College, and all inquiries should be addressed to J. O. Rowell, Extension Entomologist, Blacksburg, Virginia. The Virginia State Beekeepers' Association will hold its regular winter meeting during this Short Course. This meeting will be held the evening of September 12 beginning at 7:30 p.m. Make your plans to attend both the Beekeeping Short Course and the Association meeting.—Henry W. Weatherford, Sec.

* * * * *

Dr. J. deWilde of Amsterdam, Holland, visited our office recently. Dr. deWilde is a beekeeper, an assistant professor, and an officer in the National Beekeepers' Association of Holland. He is particularly interested in bee breeding and visited the different bee culture field stations under Jas. I. Hambleton to acquire the latest information on artificial insemination of queen bees (see photograph on page 547).

* * * * *

At the summer meeting of the **Empire State Association of Beekeepers,** Dr. E. F. Phillips exhibited a lithographed honey pail used by Van Deusen probably 60 years ago. The quality of the tin was good for the inside was still bright. It reminds one of the old saying "There's nothing new under the sun". Unfortunately, lithographed pails are not as popular in the United States as in Canada. Perhaps 25 or 30 years ago we expected too much of them.

Gilbert Perigo Succeeds Gerald L. Hodson as Chief Inspector of Apiaries for Indiana

We regret to report that Gerald L. Hodson of Amboy, Indiana, who has been Chief Inspector of Apiaries for Indiana since early in 1948, has been forced to resign due to poor health.

However, with the resignation of Mr. Hodson Indiana is fortunate in having Mr. Gilbert Perigo of Boonville, Indiana, a deputy inspector for the past eight years, to take over and carry on the fine work of Mr. Hodson.

Mr. Perigo has had quite a long experience with bees. His father bought bees for him when he was in high school and he has had bees ever since. Today he operates 200 colonies and sells all of the honey he produces in the neighborhood of Boonville, and he finds it necessary to look to other beekeepers for honey to fill his orders. He has been a teacher in Junior high and grade schools for many years.

Gleanings wishes Mr. Perigo every success in his new venture.

Gilbert Perigo

XUM

A TALK TO BEEKEEPERS

(Continued from page 567)

to have some bee authority tell me. It is possible that some strains or races of bees will supersede failing queens, while other strains will tolerate the old queens. Some colonies that do not supersede old queens will eventually lay no eggs and consequently there will be no larvae from which bees can start queen cells. Such colonies become hopelessly queenless.

To Winter or Not to Winter

Some beekeepers in the North kill off their bees in the fall, saving enough combs of honey and pollen in the brood chamber to supply food for package bees installed the following spring. In the very far North this method may be advisable.

Some years ago a commercial beekeeper in Ohio decided to kill off his bees in the fall and put in package bees the following spring. He removed all of the queens from his colonies during late August. However, he forgot one thing, and that was to destroy the queen cells on the ninth or tenth day after removing the queens. When he visited his apiaries about a month later he found that most of the colonies had reared young queens, which they will do in about 21 days.

Those who practice killing off bees in the fall remove the queens some time during August and place a queen excluder between the brood chamber and the bottom board of each hive to prevent virgin queens from going out to mate. It is then necessary to destroy the bees with Cyanogas later on in the fall, then remove the dead bees from the hives. Most beekeepers store the hives with some honey in the brood chambers in a building during the winter months, then place them back on the summer stands in the spring prior to the time packages are received. It is very necessary to make arrangements in the fall with some reputable bee breeder in the South to have packages shipped at a certain time in the spring so that the bees may be installed at the beginning of the fruit bloom and dandelion flow, in order to build up and develop into populous colonies in time to take advantage of the major honey flow later on.

Wintering Bees in Half the Hives of an Apiary

During a recent trip to Wisconsin I met some beekeepers who are now making a practice of uniting and wintering half the number of hives of bees in each apiary, then dividing the populous colonies at the beginning of the dandelion and fruit bloom honey flow in the spring, giving the queenless divisions young laying queens. This method is practiced by some commercial honey producers in the Red River Valley.

This method appears to have merit. It is worked out in this fashion: Each colony is wintered in a three-story hive, the upper story being well filled with honey and the two lower stories having a considerable

An A. I. Root Company apiary that is well protected from the prevailing winds.

amount of honey. In the spring such powerful colonies are likely to need some attention or they may swarm. An extra bottom board and hive cover are placed about three or four feet to one side of each populous three-story colony. When such a colony is checked at the beginning of the dandelion honey flow which occurs early in May, enough combs of sealed brood with bees, as well as combs of honey with bees, are taken away from the three-story colony to make up a single-story hive called an "increase". Usually the old queen is left on the parent stand and a new queen is introduced to the increase colony nearby. It is customary to shake a few combs of bees from the parent hive, preferably combs containing a large number of young bees, into the increase hive. Of course, some of the old bees will drift back to the parent hive but the young bees will stay put. It is necessary to reduce the entrance of the increase hive down to rather small dimensions so that no brood may be chilled. With intelligent management both divisions may be brought up to full strength at the beginning of the major honey flow, which begins early in July in that area.

At the end of the season, when the surplus honey is removed from both hives, a full super or food chamber is reserved for winter food. The colony with the young queen is set on top of the colony with the old queen, then the food chamber is set on top of the two, making a three-story colony. In most cases the older queen will be disposed of and the young queen retained and thus requeening without dequeening by the beekeeper is attained.

Obviously, such a united colony will consume less stores during the winter months than would the two colonies if they were not united. And so, from the standpoint of requeening without dequeening, and a saving of stores, this method appears to have merit. However, it should be tried only in regions where the major honey flow occurs late enough in the season to permit divisions made early to build up in time to take full advantage of the main flow.

J. D. Nothstein, President of the Carbon County (Pa.) Beekeepers' Association, and some of his hives. He has 135 hives which are kept in several places in the county. Four hives, shown here, are in the back yard of his store in Palmerston, and their docility is shown by this picture.—Paul Hadley, Philadelphia, Pa.

KELLEY'S AND PELEE ISLANDS

(Continued from page 569)

J. T. Keller of the U.S.D.A. Fruit and Vegetable Branch, Washington, told how information on honey is gathered and disseminated. Mr. Keller is on the editorial staff of the bi-monthly honey report which comes out regularly. This honey report was started in 1917 and has continued since, covering different areas of our country.

Charles A. Reese, Bee Extension Specialist for Ohio, who is largely responsible for setting up the summer meeting program, introduced visitors to Kelley's Island and especially the 39 beekeepers from Canada, among whom were Tom Shields of Toronto, C. B. Gooderham of Ottawa, Prof. Townsend of Guelph, and a number of others. There were also beekeepers from Florida, Mississippi, Michigan, and Missouri.

Charles Reese presented Mr. Gooderham with a pipe and a pouch of his favorite smoking tobacco. We dare say that pouch of tobacco has long since gone up in smoke. "Charley", as we call him, does enjoy his pipe.

An interesting panel discussion on the future of our industry was conducted by the Moderator, C. A. Reese. **Emerson Long** of Ohio said that some beekeepers are going out of business while others are going into comb honey production. It appears to be a period of readjustment. However, there seems to be a note of optimism in spite of low honey prices and present lack of good bee pasturage.

Alan Root of Medina was then presented. He, too, mentioned a tone of optimism that appears to be prevalent, at least more so than a few months ago. He referred to the seed pollination projects now being conducted in two counties in Ohio which, if successful, may establish a new precedent or the beginning of a new era in beekeeping.

Roscoe Franks, honey salesman for the Ohio Co-Op, was pinch-hitting for L. C. Gardner of Delaware. Mr. Franks advocates a better job of merchandising honey, which should be injured as little as possible in getting it from the hive to the honey container. We need to be able to determine color, water content, and flavor.

Dr. Mervin G. Smith, Extension Economist at Ohio State University, summarized the remarks of previous speakers. From his viewpoint, honey is tied up with other sweets. The volume of honey sales depends somewhat on how much honey is available among consumers. He also emphasized the importance of increasing colony production in order to reduce costs.

Many of the beekeepers visited the main apiary on Kelley's Island where queen rearing is done. The new building, 20 by 40, is a model for commercial beekeepers to strive for.

The fish fry held the first evening was a huge success.

On August 11 the Neuman boat transported over 150 people to Pelee Island, one and one-half hour's sailing from Kelley's Island. Pelee Island contains about 3600 acres; Kelley's Island 2800 acres.

Visitors were transported around the Island by busses. A large acreage of soy beans is grown—in fact, that appears to be the main crop.

The Canadian Bee Breeding Project consists of about 200 colonies of bees divided into three apiaries some distance apart. At the queen mating apiary there are approximately 500 double-queen hives which means that there are 1000 compartments for mating queens. Artificial insemination is not practiced on Pelee Island, but those in charge look forward to including it in their program in the near future. Only the best breeding stock from Canadian beekeepers is used, and the queens are shipped to beekeepers throughout the Dominion.

The project is under the supervision of the Guelph Agricultural College, and four workers reside on the Island to perform the necessary labor.

All in all, the meeting was a grand success. Some of the Canadians had a chance to see what is being done on Kelley's Island, and a large number of U. S. beekeepers had the opportunity of seeing first hand what is being done on Pelee Island.

Obviously, the spirit of cooperation that exists between workers on the two islands will continue to grow, and eventually there should emerge a superior strain or strains of bees which will benefit the beekeeping industry on this continent and perhaps other countries.

Siftings

"There will always be a frontier where there is an open mind and a willing hand."—C. F. Kettering.

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"A good quality honey is at present being extracted in the Moralla-Balmoral-Harrow-Edenhope district from yellow gum. Good colonies have been storing up to 60 pounds in a five to six day period during the good weather."—W. A. Collins, Apiary Inspector, in January 1949 Journal of Agriculture, Victoria, Australia.

* * * * *

"Cooperation with Nature is the keynote of successful bee culture, which may be described as deflecting and guiding the bees' activities, rather than controlling or coercing them."—W. H. Wadey in "The Bee Craftsman".

* * * * *

"Sometimes it is difficult to distinguish between the physical appearance of robber bees and others, although robbers eventually become smooth, shiny, and almost black. They have an air of roguery and a nervous and guilty agitation. They do not alight boldly at the entrance of another colony, nor do they face the guards without fear. They seem to try to glide by the sentinels without touching them. When robbers are caught by guards they try to pull away. If these marauders attack a strong colony they have difficulty in escaping with their lives. On the other hand, a bee that loses its way and alights in front of a strange hive behaves differently, shrinking to a corner, bewildered and submitting to any treatment her captors may exact."—The 1949 Edition of "The Hive and the Honey Bee."

* * * * *

"To keep the forces together and satisfied, with the storing instinct dominant during a good honey flow, is the most difficult problem with which the producer of comb honey must deal."—George S. Demuth in his Farmers' Bulletin 1039 "Commercial Comb Honey Production".

* * * * *

"Honey Bee—the honey bee belongs to the class **Insecta,** order **Hymenoptera,** superfamily **Apardea or Anthrophila,** and family **Apidea.** In 1758 Linnaues named the honey bee **Apis mellifera** (honey bearer) and three years later in 1761 changed the name to **Apis mellifica** (honey maker). Dalla Torre recognizes in the genus **Apis** over 180 species. Races or varieties of the so-called domestic bee are also distinguished by the names of the geographical localities in which they occur and from which they have been exported as Italian, Carniolan, Syrian, Cyprian, Banat, Caucasian, and Tunisian.—From "Beekeepers' Dictionary" published some years ago by The A. I. Root Co.

* * * * *

"We had a record season last year in honey production. My hives averaged 370 pounds of first grade honey and I believe this was fairly general. Winter is very close to us here although we rarely have snow. Hives are left in the open and never packed."—A. F. Salan, N.S.W., Australia, from letter dated May 22, 1949.

* * * * *

"I have extracted an average of 100 pounds of honey from my back yard hobby apiary, right in the center of the greatest city of the South."—Excerpt from a letter dated July 2, 1949, from a beekeeper in Houston, Texas.

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"For generations past we have been cruelly treating the honey bee; originally a child of India but now spread throughout the world. This useful friendly insect is becoming all but extinct in India, owing to our negligence and ill treatment."—R. N. Muttoo, in March and April 1949 Indian Bee Journal.

* * * * *

"Little city, abounding in faith, mystery, and hope, why do your myriad virgins consent to a task that no human slave has ever attempted? Another spring might be theirs, another summer, were they only a little less wasteful of strength, a little less self-forgetful in their ardor for toil; but at the magnificent moment when the flowers all cry to them, they seem to be stricken with the fatal ecstacy of work; and in less than five weeks they almost all perish, their wings broken, their bodies shrivelled and covered with wounds."—Maurice Maeterlinck in "The Swarm".

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FLORIDA WHITE TUPELO, the world's finest honey—pure orange blossom honey — white clover, and buckwheat honey shipped in barrels, 60-pound tins, gallon cans, or in glass by the case. Pure maple syrup. Alexander Company, 819 Reynolds Road, Toledo, Ohio.

CLOVER extracted honey in sixties. Abram H. Brubaker, Lancaster, Pa., Rt. 1.

HARRIS for Michigan's best clover extracted honey, one can or a car. New cans. Harris & Son, St. Louis, Michigan.

500 NEW CASES fancy clover-basswood comb honey with that old-fashioned flavor. Sample case, $10.00. F.O.B. Barger Apiaries, Carey, Ohio.

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MICHIGAN'S FINEST CLOVER HONEY in sixties. Arthur Thayer & Sons, 2122 Ames, Saginaw, Michigan.

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BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED — Extracted and bulk comb honey. Clover Bloom Honey Company, Minco, Okla.

WANTED — White and amber honey. Any amount. D. F. Treap, 316 Keenan Ave. Cuyahoga Falls, Ohio.

WANTED—Honey and wax, any quantity. Send samples and prices. Alexander Company, 819 Reynolds Road, Toledo 7, Ohio.

CASH FOR YOUR HONEY — Extracted or comb. Regular trade send sample. 60-lb. cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles 21, California.

WANTED—EXTRACTED HONEY— Clover or light amber. C. H. Denny, 483 Moody St., Akron, Ohio.

HONEY AND WAX WANTED — Mail Sample. Advise quantity. BRYANT & SAWYER, 2425 Hunter St., Los Angeles 21, California.

WANTED — White extracted or comb honey. Send sample. Millersport Honey Co., Millersport, Ohio.

COMB HONEY WANTED—Section and Cut-comb. Advise grade, quantity, and how packed. F. H. Hauck, P. O. Box 84, Kew Gardens, N. Y. Bank reference furnished on request.

CASH FOR BEESWAX — Write as to quantity and we will quote price. Muench-Kreuzer Candle Co., Inc., Syracuse, N. Y.

CASH for your comb honey and all types extracted. Send sample and best price. Buckeye Honey Co., 3930 N. High St., Columbus 2, Ohio.

WANTED white and buckwheat comb honey. For sale: corrugated paper shipping cartons for following, per 100, comb honey, 4¼, 24's, $19.50; 6 5-lb. tin pails, $16.25; 60-lb. cans, $13.00; single 5-lb. pails, $11.00. Roscoe F. Wixson, Dundee, N. Y.

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We use all possible care in accepting advertisements, but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

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CAUCASIAN QUEENS — 1 to 9, $1.00 each; 10 to 49, 90c each; 50 or more, 75c each. Howard E. Crom, Rt. 1, Box 75, Ripon, Calif.

CAUCASIAN—2-lb. pkgs., $3.00; 3-lb. $3.75. Queens, 75c. Lewis & Tillery Bee Co., Rt. 1, Box 280, Greenville, Ala.

GOLDEN QUEENS — Quality, health, satisfaction guaranteed, $1.00. O. E. Brown, Route 1, Asheboro, North Carolina.

IN FLORIDA—600 1½-story colonies, $10.00 each; Cypress hives, combs in good condition, all young queens. With six frames of brood or more, and ready for production. No disease or junk, extra equipment below cost. Box 1610, Gleanings, Medina, Ohio.

NORTHERN BRED ITALIAN QUEENS. Finest quality for production. $1.00 each. Shirl Baker, Rodney, Michigan.

QUALITY CAUCASIAN BEES — Book your orders with us now and get them when wanted in 1950. Bolling Bee Co., Bolling, Ala.

BREWER'S line-bred Caucasian Queens. 1-99, $1.00; 100 and up, 75c. Member ABBA. Brewer Brothers Apiaries, 3616 Caucasian Circle, Tampa 9, Florida.

GOLDEN Italian Package Bees and Queens. Two pounds, $4.00; three pounds, $5.00; Queens, $1.00 each. Guilford Apiaries, 4300 A. Burlington Rd., Greensboro, N. C.

THREE BANDED ITALIAN queens, extra good honey gatherers and very gentle. Select untested queens, 1 to 25, $1.00 each; 25-up, 80c; tested, $2.00. Alamance Bee Company, Geo. E. Curtis, Mgr., Graham, N. C.

GOLDEN — GOLDEN, Italian queens, best of quality. 1 to 25, $1.00 each; 25-up, 80c; tested, $2.00. Health certificate with every order. Carolina Bee Farm, W. O. Curtis, Mgr., Graham, N. C.

ITALIAN QUEENS, 50c each, shipped Air Mail and every queen guaranteed. Walter D. Leverette, P. O. Box 364, Ft. Pierce, Florida.

THREE BANDED Italian Package Bees and Queens. Two pounds, $4.00; three pounds, $5.00. Queens, $1.00 each. Bessemer Apiaries, 4300 A. Raleigh Road, Greensboro, No. Car.

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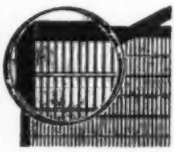


The only worthwhile Queen Excluder on the market

- Allows maximum bee passage
- Better ventilation
- More honey production
- No wood
- No sharp edges to injure bees
- No burr combs
- So durably made that it is permanently queen excluring and will last a life time.

Send for Circular E-2

Now available in the U.S.A. at the Prairie View Honey Co., 12303 12th St., Detroit, Mich., or order direct from the manufacturers.

W. A. Chrysler & Son
Chatham - Ontario - Canada

CAUCASIAN QUEENS—Best of quality. Good honey-getters and very gentle. 1 to 25, $1.00 each; 25-up, 80c each; tested, $2.00 each. Black River Apiaries, Elliott Curtis, Mgr., Currie, N. C.

BEES and QUEENS. Send for FREE circulars. Over 30 years a shipper. Blue Bonnet Apiaries, Weslaco, Texas.

REQUEEN REGULARLY with the best stock your money can buy. Good queens pay handsome profits in increased production and easier apiary management. We can furnish queens promptly at $1.00 each, 10, $9.00; 20, $17.00; 100, $80.00. This fine strain of Three-banded Italians is used by many leading beekeepers of the U.S. and Canada. The production of good queens is our only business. 2000 three-frame mating nuclei from which to supply you. H. C. Short, Fitzpatrick, Ala.

ESTABLISHED Package Bee and Queen business located in So. Ga., 425 colonies, 500 nucs. Mostly new equipment. Italian bees, requeened and state inspected. Health certificate. Ideal for northern honey producer or G.I. who wants to produce own packages and ship. Not a sacrifice outfit. Cash. Write PACKAGE BEES, 1574 Fulton Ave, Springfield, Ohio.

FOR SALE—Having spent over 60 years with bees someone must now take over. 53 colonies 1½-story hives. Modern equipment, abundant honey for winter. About 70 shallow supers for comb, chunk, and extracted honey. Ten queen excluders, ten Boardman feeders less cans, two-frame extractor to run by electric power, half gross one-pound bottles, 15 cartons five-pound bottles. Surplus honey crop still on hives. $500.00 takes all. Dr. Carl Tuttle, Berlin Heights, Ohio.

128 two-story 10-frame colonies with good queens, each equipped with metal top, excluder, 2 standard, 1 shallow super drawn combs. 4 locations if wanted. No disease. Hiltner's Apiaries, North Creek, Ohio.

REAL PETS—Brown's non-sting, non-swarming bees. Good producers. Season's price, $2 a queen. Brown's Apiary, Cape May Court House, N. J.

SUPPLIES

ATTENTION BEEKEEPERS IN MINNESOTA and adjacent states. We offer a real service on Lewis-Dadant Supplies, honey containers, and labels at a price saving to you. Top market price paid for extracted honey and beeswax. HONEY SALES COMPANY, 1806-08 NO. WASHINGTON AVE., MINNEAPOLIS, MINNESOTA.

SEEDS

Study your conditions, plan for better BEE PASTURE. Free circular "SEEDS OF HONEY PLANTS". Pellett Gardens, Atlantic, Iowa.

INSECTICIDES

PARADICHLOROBENZENE FOR WAX MOTH CONTROL. Send postal for delivered prices. Tritox Chemical Co., Washington, Ind.

BUSINESS OPPORTUNITIES

THE BEEMASTER — Free Copy, introducing "Scientific Beekeeping". Earthmaster Publications, Dept. 5, Box 547, Sun Valley, Calif.

MISCELLANEOUS

FOR SALE — Beautiful White Collie pups. They are very high grade intelligent pups from natural heeling parents. They are also good pets and wonderful watchdogs. B. Cottrell, Irma, Wis.

Will exchange 22 Bee Lyon hive heaters with master control (used only one winter) for No. 1 extracted honey. Raymond Presnell, Shulls Mills, N. C.

WANTED—A small place whose owner wishes to retire. Full particulars please. Box 949, Gleanings, Medina, Ohio.

MAGAZINES

WESTERN CANADA BEEKEEPER—Official organ of the Manitoba Beekeepers' Association. One year, $1.50; two years, $2.25; three years, $3.00. In combination with Gleanings in Bee Culture, $2.75. 211 Affleck Bldg., Winnipeg, Canada.

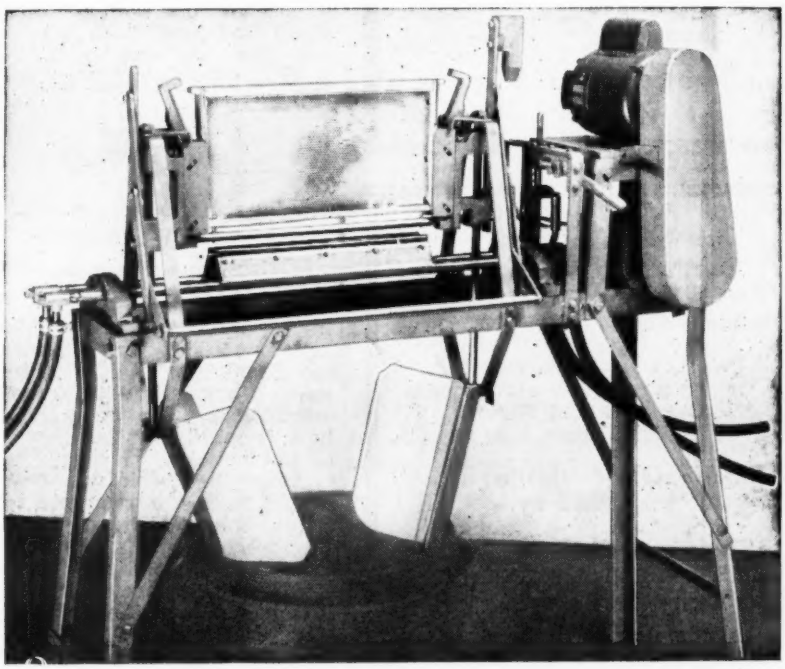
Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3306, Cape Town, South Africa.

KNOW interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English, by the Bhupen Apiaris (Himalayas), Ramgarh, Dist. Naini Tal, U.P., India, or obtainable from them. Subs. Rs7/—or 10 shillings or 2.25 dollars per annum. Single copy Rs¼ s. 1/9 or 40 cents (International Money Order.)

THE BEE WORLD—The leading journal of Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents stamps. Membership in the Club including subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

DO YOU FIND it difficult to secure information about sheep and sheep ranching methods? The SHEEP AND GOAT RAISER reaches more sheepmen with more information on range sheep than any other magazine published. Subscription — $1.00. Hotel Cactus, San Angelo, Texas.

The Biggest Thing in the Honey House



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A definite answer to the uncapping problem

Thoroughly tested and proven Uncaps up to 400 supers per day

Send for descriptive folder

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HUMMER'S

Italian Queens

1 to 50 .... 75c
Over 50 ... 65c

Airmail postpaid
No charge for clipping

Geo. A. Hummer & Sons

Prairie Point, Mississippi
Established 1892

Whittle's

Leather Colored Italians

Get your Packages and Queens when you want them. Reserve 1949 Shipping Dates Early. Write For Our 1949 Prices On Package Bees and Queens Our Bees and Service Will Please You

G. E. Whittle
Star Route West
Greenville, Alabama

A Famous Strain of
LIGHT COLORED ITALIANS
produced and shipped by
The Most Modern Bee Breeding Establishment on Earth

The Daniels Apiaries
Picayune, Mississippi

Prepare for the Future
Buy U. S. Savings Bonds

LANGUAGE OF THE BEES

(Continued from page 571)

But why not give the bees credit for having a sense of smell, and that it is so highly developed that the odor of nectar comes down with the wind to them for miles.

But as I said, the Professor tells a good story, and I believe with Mark Twain that we should never let facts interfere with a good story. Yes, and it was a Professor of Greek and Latin who, for a while, put the kibosh on Mark Twain's Story of the Jumping Frog of Calivaras. The Professor concocted the Jumping Frog Story in Ancient Greek and then translated it back into English, and had Mark Twain worried for a while—until the Professor confessed. However, I am not taking it for granted that the German Professor had his tongue in his cheek when he conceived the idea that bees know north from south and east from west and can box the compass on a horizontal honeycomb. Perhaps he believes it.

AMERICAN HONEY INSTITUTE NEWS NOTES

(Continued from page 570)

these tear sheets carried two and three column spreads on Honey and how it could be used during Honey for Breakfast Week. Tie-in articles with other products were numerous. Pictures illustrating Honey and how it could be used adorned many of the articles.

After the week was over, many of the food editors wrote to the Institute asking for more material like that we had just sent to them.

During just one week of "full steam ahead" promotion, the Institute had gained for Honey a reputation that aroused homemakers to pick up a jar of Honey when they went shopping.

No amount of advertising can replace this effective newspaper publicity. It is a fact that women do read the woman's page. It is also a fact that they do the buying for the family. This publicity puts Honey, the product, the woman, the consumer, face to face!

AGUINALDO, THE CUBAN HONEY PLANT

(Continued from page 555)

secretes as much nectar as the white although apparently not so. This is due to the fact that its maximum bloom takes place when the hives have not acquired sufficient strength to store all the honey produced. Notwithstanding, the yield is good, averaging 70 pounds of honey per colony, with as high as 180 pounds with strong colonies in an exceptional season.

Localities in which the white and the pink aguinaldo abound at the same time are not common, which is to be lamented because the pink blooming a month before the white could contribute to the strengthening of the colonies so that they could obtain the maximum harvest from the blooming of the white.

The honey of the pink aguinaldo is also of a pearly white color and of as good quality as that of white. It is supposed to have the same medicinal value.

QUEENS

York's Quality Bred

Italian Queens

1-24 25-99 100-up

$1.00 ea. 85c ea. 75c ea.

None better regardless of price

York Bee Company

Jesup, Georgia

(The Universal Apiaries)

CAUCASIANS

CARNIOLANS

Both races gentle, prolific, wonderful workers. Caucasians have the longest tongues of any race. See GLEANINGS, July, 1949, page 428. Carniolans often build up more rapidly during unfavorable spring weather of our northern states.

Gentle bees save time, patience, sweat, and work.

Putting in young, vigorous queens in September insures better wintering and a surer and faster build-up next spring. Over 25 years a queen breeder.

Prices: Untested, $1.00 each. In lots of 10 or more, 75 cents each. Tested, $1.50 each.

Albert G. Hann, Glen Gardner, N. J.

Package Bee Buyers

Please accept our thanks for the business you have sent our way. We have done the best we could to serve you in a satisfactory manner by shipping according to your instructions.

Keep your attention on our advertising for next year. It will be to your advantage then and always.

Our season is closed for Packages, and Queens can be supplied only in small numbers unless arranged far in advance.

"They Produce"

Rossman & Long

P. O. Box 133, Moultrie, Ga

QUEENS

Dark Three-Banded Italians

75c each for the balance of this season

A. M. Peach

Baldwyn, Miss.

ATTENTION

Three-Banded Italian Bees and Queens

Compare the price below with your honey prices and figure your gain. Even though prices have been cut to rock bottom you still get quality bees, full-weight packages, a health certificate, and live arrival guaranteed. Take advantage of this offer now.

2-lb. pkg. with queen,	**$2.50**
3-lb. pkg. with queen,	**3.50**
4-lb. pkg. with queen,	**4.50**
Queens, each	**50c**
Queens in 100 lots	**45c**

Farris Homan

Shannon, Mississippi

Little & Moore Apiaries

Originally
LITTLE'S APIARIES
The John M. Davis Strain
GUARANTEED TO PLEASE
or money refunded
April 15th to June 1st:
1 to 10, $1.25 each
June 1st to November 1st:
$1.00 each any number
Write for quantity prices
Little & Moore Apiaries
Shelbyville, Tenn.

High Quality Italian Queens
75c each
100 or more, 65c each
Carlus T. Harper
New Brockton, Ala.

Fall Requeening Pays
With Hollopeter's Strain of hustling Italians now at their best during buckwheat flow. Prompt service of choice northern bred queens, satisfaction guaranteed. Price balance of season: 1-9, $1.00 each; 10-24, 90c; 25-49, 80c; 50-99, 75c; 100 and up, 70c.
White Pine Bee Farms, Rockton, Pa.

Three Band Italian
Package Bees and Queens
Jackson Apiaries
Funston, Ga.

ITALIAN QUEENS
Bred for business, Gentle, 52 years' breeding experience. Safe arrival.
Unt., $1.00; Sel. Unt., $1.25 each
I. F. Miller, Warren, Pa., R. 3

BEEKEEPING IN THE EXTREME NORTH

(Continued from page 553)

it scarcely dips under the rim of the North at all, and the sunset glow never entirely departs, but creeps northward, then eastward and mingles with the glow of sunrise. Only about two hours can be called night, and most people would call 18 hours definitely daylight. It is strange how the energy, not only of our bees, but our own bodies seems to increase with the increasing daylight. That's the time of year we get the work done! It is too bad that the lack of any important honey plant in bloom between June 15 and July 1 forces the bees to rest just when they are eager to work—and perhaps to get into mischief within their hives! They are not likely to swarm then, but their preparations for swarming undoubtedly begin at that time if the colony is strong enough.

Low Humidity One Important Factor

A fourth advantage is the comparative dryness of the air during the sweet clover month of July. The importance of a low humidity in order to stimulate the sweet clover flow to its magnificent capacity was revealed in 1946, for about a week occurred when high humidities interfered with honey gathering. It is strange that such an interlude should have appeared in a season that was on the whole too dry. At that time we all said, "This is typical Ontario weather."

Our chief handicap is the lack of sufficient heat units. Both June and August see long stretches when the temperature is too low for bee prosperity. In June the temperature and the cold winds interfere with bee flight just when Bebb's willow is most freely opening its little cups of ambrosia. In August it is usually warm enough for bees

(Continued on next page)

BESSONET'S ITALIAN QUEENS
Check your hives this summer and fall and requeen with stock with universal appeal. We recommend the Ashurst shipping cage, but due to cost, add 5c extra per queen.
Prices: 1-24, 80c each; 25 or more, 75c each, AIRMAILED.
LEWIS-DADANT DEALER
Bessonet Bee Company **Donaldsonville, La.**

ITALIAN PACKAGES AND QUEENS

2-lb., $3.00; 3-lb., $4.00; 4-lb., $5.00; Queens, 65c

Guaranteed live delivery—clipped—airmail postpaid

Packages Express Collect

Sunkist Bee Company **Convent, La.**

Better Bred Queens **Three Banded Italians**

Plenty good queens from our famous Better Bred Strains that have proved their merit for years. Replace all old and failing queens and watch them build up fast.

Queens, any quantity, 60c each. 50c each in lots of 10. Prompt delivery.

Calvert Apiaries **Calvert, Ala**

Congratulations . . .

to the second prize winner for his answer to the statement — I like DR queens because . . . .

"I like DR Queens because their dependability assures profit by colony build-up and insures against colony loss by queen loss at supersedure time."—Cass L. Timmons, Sr., Route 1, Bueshel, Kentucky.

Iowa Beekeepers' Association

State House **Des Moines 19, Iowa**

BEEKEEPING IN EXTREME NORTH

(Continued from previous page)

light, but the honey plants that are available then do not appear to be stimulated to nectar secretion. One sees fields of asters and goldenrod, and never a bee on them. **I have never yet seen a bee on goldenrod.**

Sweet clover, of course, gives almost all of our crop, with a little raw thistle nectar intermingled toward the end of the season. It is one of our big worries that the farmers are erratic in their sowings of sweet clover. One year there will be three times as much sweet clover as the bees can possibly use, and the next an alarming dearth. The sweet clover weevil has been present for five or six years but has not become prevalent enough to be more than a threat. We are now beginning to hope that perhaps climatic conditions will be able to hold it in satisfactory check as they do the potato beetle.

TOO LATE TO CLASSIFY

FOR SALE: 50, 27, 20 colonies of bees in 10-frame hives, mostly new. Bumper crop on hives. Sell together or separate. C. L. Young, Albia, Iowa.

FINE QUALITY Northern New York white honey in new 60's. Write for prices. Sample, 20c. A. J. Wilson, Hammond, N. Y.

COMB HONEY, No. 1 White Clover, $7.50 per case. Engle Apiaries, Kearneyville, W. Va.

PACKAGE BEES headed by Mountain Gray Caucasians or Leather Italian Queens. ABBA. Prices March 20 delivery, TWIN BEE CO-OP., 3616 Caucasian Circle, Tampa 9, Florida.

Northern Bred

Leather Colored Italian Queens

50c each

Air Mail if distance justifies

No charge for clipping

Diemer Bee Co.

Rt. 2 Box 7 Liberty, Mo.

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JENSEN'S

Quality Queens plus Right Now Service

Two strains of Italians, each characteristically tops

"Magnolia State"— Our Old Reliable Line of Medium Dark Pure Three-Banded Italians. They have stood the test of time.

1-24, 85c ea.; 25 up, 75c ea.
Tested Queens, $1.25 each.

"New 3-Way Hybrid" Disease Resistant Stock. Isolation bred for greater honey production, disease resistance, and gentleness. August 1st to November 1st.

1-24, $1.25; 25-99, $1.15;
100-999, $1.00;
1000 or more, 95c each.

All queens clipped, or marked, or both if specified
Postage paid, and Air Mail if distance justifies

Jensen's Apiaries Macon, Miss.

Leather Italians Caucasians
Queens, Any Number,

50c each

Guaranteed

Prices reduced to meet the conditions within our industry and help you stay in business.

We will ship packages only until June 20th. Queen shipments until Nov. 1st.

The Rich Honey Farms

Jeanerette, La.

Rich's All Italian Hybrid Disease Resistant

QUEENS

A New Type Bee
Northern Bred All Italian

This is a cross of pure Italian bees to produce a strong gentle bee that is superior in vigor and has positive resistance to American foulbrood. This stock is produced and maintained by northern honey producers at much expense. We help pay that cost.

1-24, $1.25; 25-99, $1.15
100-999, $1.00
1000 or more, 95c

When ordering Italian bees and queens, remember TANQUARY'S quality, quantity, and service. We are here to serve and please you.

No. pkgs.	Queens	2-lb.	3-lb.	4-lb.	5-lb.
1-24	$.80	$3.50	$4.50	$5.50	$6.50
25-99	.70	3.25	4.25	5.25	6.20
100-up	.65	3.00	4.00	5.00	5.80

TESTED QUEENS, $2.00 each
Queenless Packages, deduct price of queen
Queens Postpaid — — —Packages F.O.B.
Western Union: Lena, S. C. Phone: Estill, S. C., No. 109

Tanquary Honey Farms, Inc. Lena, S. C.

FOR SALE
Italian package bees and queens
Health certificate and live delivery guaranteed.
LYNN WILLIAMS
Rt. 3 Oroville, Calif.

ITALIAN QUEENS
Any Quantity
75c
Girardeau Apiaries
Tifton, Georgia

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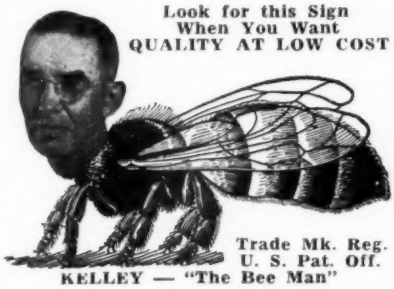
When You Want
QUALITY AT LOW COST



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U. S. Pat. Off.
KELLEY — "The Bee Man"

QUEENS
60c each

Via Prepaid Air Mail

50c Each in 100 Lots

Overnight Delivery in the U. S. A.

Shipping freshly caught queens daily until November 10th

Walter T. Kelley Co., Box 210, Paducah, Ky.

Quality Queens, 75c

Our Quality 3-Banded Italian Queens are Fast Builders and Great Honey Gatherers.

1-24	75c
Over 24	65c

Our New 3-Way All Italian D. R. Queens are Bred in Isolated Mating Yard, from Outstanding Northern Tested Parents.

1-24	$1.25
25-100	1.15
Over 100	1.00

Airmailed and clipped upon request

Garon Bee Company Donaldsonville, La.

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The Leading Bee Journal of the
Souther Hemisphere is the
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STOLLER'S Fine Quality Clover Honey 1949 crop, excellent for bottling. Stoller Honey Farms, Latty, Ohio.

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